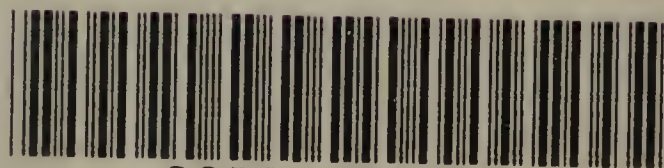


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Thomas H. Bickerton

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*Captain Bertram Pim*  
*2 Crown Office Row Temple*  
BRITISH MERCHANT SERVICE *E.C.*  
JOURNAL,

FOR 1880.

A MONTHLY PUBLICATION,  
DEVOTED TO THE INTEREST OF THE SERVICE.

CONDUCTED BY THE  
COMMITTEE OF THE SHIPMASTERS' SOCIETY,  
LONDON.

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T H E  
BRITISH MERCHANT SERVICE  
JOURNAL.

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JANUARY, 1880.—VOL. II.—No. I.

---

NOTES BY THE EDITOR.

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IN presenting our Second Volume, it affords us pleasure, to be able to congratulate the Service on the apparent turn of the tide in its favour, and we feel assured that all will be gratified to learn that the Committee of the Shipmasters' Society at their last meeting were favoured by the presence of Mr. Thomas Gray and Captain Digby Murray.

The business before the Board was that of the Navigation of the Thames, and in the discussion thereon both of these gentlemen took part, and expressed their desire to hear the views of the shipmasters upon the question of the starboard-side rule for the river Thames, which they maintained is the only means for promoting safety and clearing navigation.

This friendly visit proves that there is a disposition on the part of the authorities to give full consideration to the practical opinions of the officers of the Mercantile Marine, and that there is a desire, so far as possible, to meet their wishes.

The rules for regulating the constitution of Courts of Inquiry under the Shipping Casualties Investigations Act, 1879, are now issued, and the most casual perusal of the same must convince all that Lord Sandon's chief desire is to put an end to the acknowledged abuses in the conduct of these Courts.



The Assessors are to be classified according to experience, either in sailing or steamships, and when called upon to serve are to be taken in rotation from the list kept by the Secretary of State.

This salutary change we sincerely hope will result in decisions more consistent, and will inspire more confidence in those who are called upon to pronounce judgment upon master mariners and officers, whose only fault is often only an error of judgment.

We can fully realize the difficulties in overcoming the opposition which doubtless was offered whilst the rules were being framed, and the fact that they carry out to the letter the views expressed by the shipmasters is, in our opinion, an indication of the desire that the Mercantile Marine and the Marine Department of the Board of Trade should be more closely knit together for mutual advantage.

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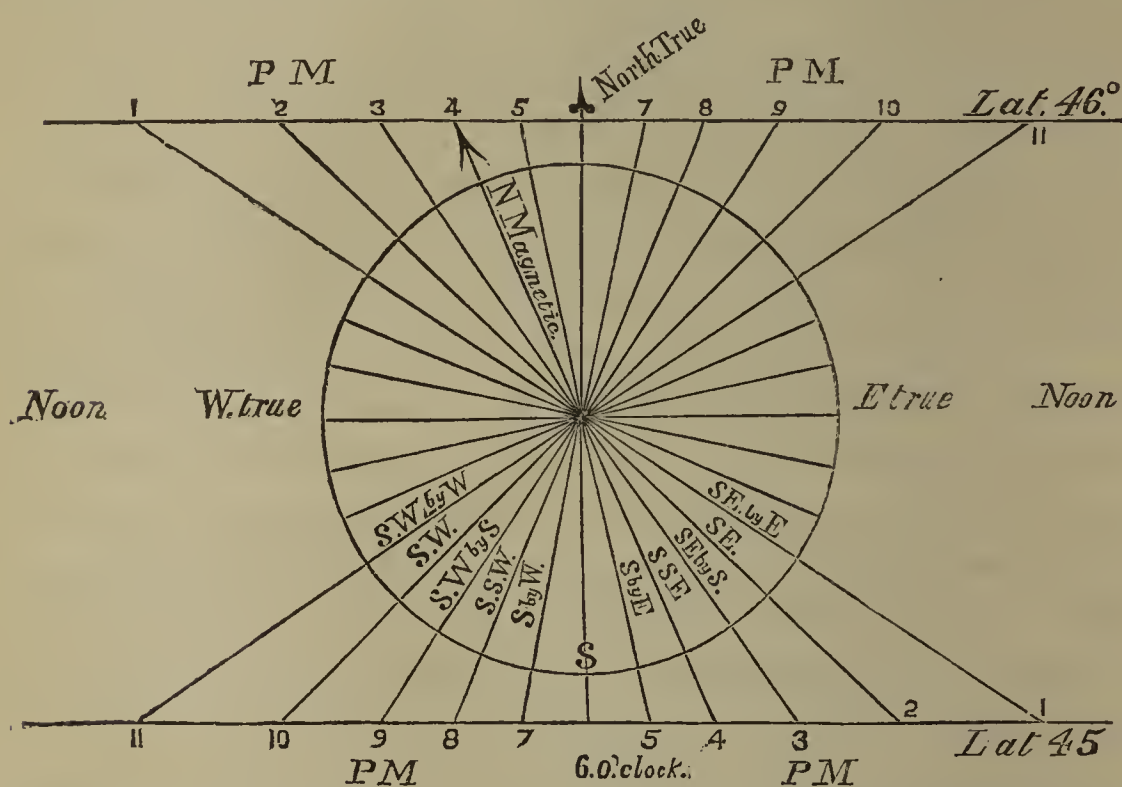
## HIGHER STANDARD EXAMINATION FOR THE MERCHANT SERVICE.

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**I**T *should* be a matter of great surprise to all thinking men in any way connected with the Mercantile Marine of this great—and almost amphibious—nation, that the standard of acquirements in Nautical Astronomy is not higher than it is, and is so much lower than that of other maritime countries who hold examinations and issue certificates to the officers of their respective services. Hamburg seamen, in particular, have to undergo an examination which few men in our merchant service would at present care to attempt. The Board of Trade should see that common sense is brought to bear upon the regulations of the standards of acquirements for candidates for the examinations. If it was possible, take

about ten legal men of acumen (they are all pretty well gifted with that), and let them go a few voyages to sea ; short voyages in steamers in a driving trade, where they will see the *necessity* for quickly and promptly ascertaining the ship's position under all adverse circumstances of wind and weather—(I am assuming that chronometers are often incorrect, and that the sun does not always show his useful disc when wanted)—and then ask them to believe that “Latitude by the Pole Star,” a simple and useful method, is not even required for a *master*, unless he passes for “extra,” which is voluntary. The same may be said of “Sumner's Method,” which ought to be thoroughly known by every officer of a sea-going ship, as being *the best* method of finding a ship's position at sea, especially when the latitude is doubtful, or the chronometer is in error, and yet this most useful problem is barely touched upon, even in the examination of a master, unless he passes extra ; and is not expected of the chief mate, who may have to assume the command at any time. The same absurd limitation applies to other useful problems ; in fact the standard for master ought to be for second mate, excepting in small craft ; the standard for extra master, for chief mate, and the standard for master should be raised much higher, and include trigonometry ; and, if a standard is wanted for extra master, let them go in for euclid, spherics, algebra, &c. Every mate of a ship ought to be able to use an artificial horizon. I always carried one, and found it very useful to correct an unreliable chronometer, if you call at a port where there is no time ball. I have often been glad to take a set of sights at 8 a.m. on the rough old seawall at Vigo, and worked the error of chronometer out when we got out to sea ; and, as for “Sumner's Method,” if every officer knew the value of it, they would not wait for the Board of Trade to require it of them. The value of it is incalculable, as I have proved through several years, and I feel convinced that a horn card (like Piddington's for

the law of storms) could be made, engraved with the lines of equal altitudes, drawn on it in a diagram as regularly as the lines on a Variation Chart, which being laid over the supposed place of the ship, would give the true place by a kind of "inspection." To illustrate my meaning, I append a rough plan of such a diagram. For the sake of simplicity we will have it about the middle of the Bay of Biscay, where the variation is 2 points, as near as possible.



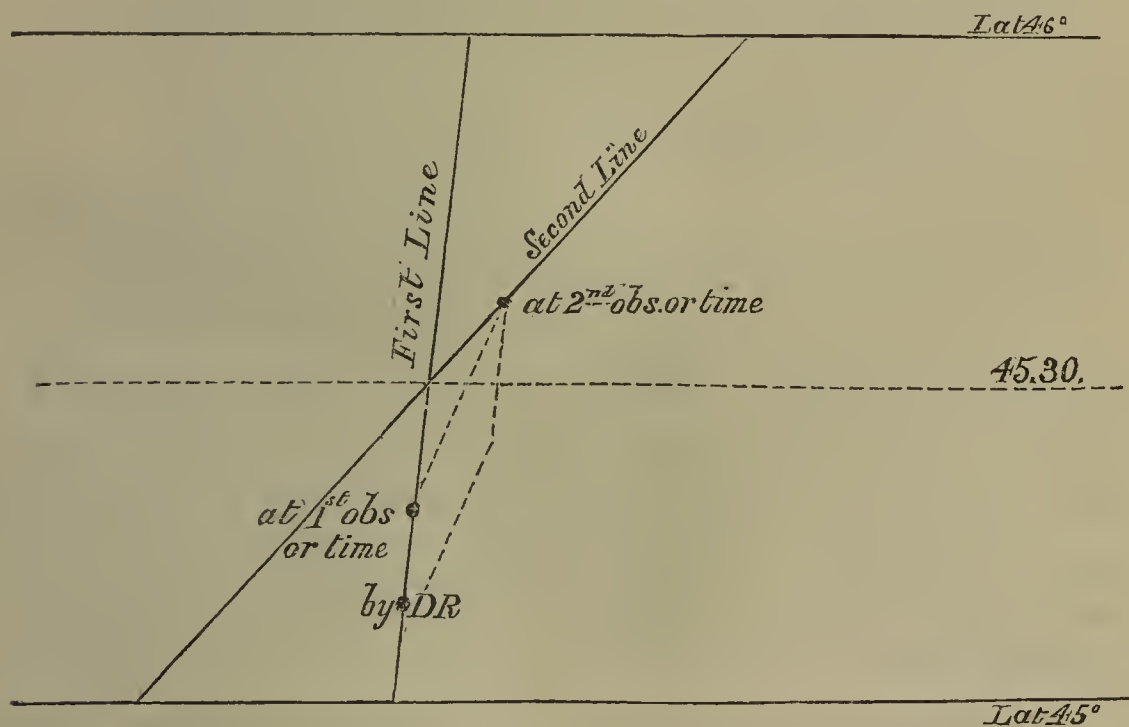
11 o'clock is too near noon.

1 o'clock is too near noon.

Now we will suppose a ship to have run past Cape Finisterre without getting a fresh departure on a N.E.  $\frac{1}{2}$  E. course magnetic, till at 6 o'clock in the morning, she is in *about*  $45^\circ$  north latitude. At 7 the sun shows up, and a sight is obtained, which worked with lat.  $45^\circ$ , and with lat.  $46^\circ$  gives a line running N. by E., and S. by W. true (or S.W. by S. magnetic), which drawn in pencil from parallel to parallel (passing *through* the ship's place by dead reckoning if no sight is obtained) and she is *on* that line *certain*, if the chronometer is right, and wherever that line produced points, is the bearing of the land. If chronometer is 40" fast it will place the line



10 miles to the eastward of its right position, and *vice versa*, but *the direction will remain the same*. Again, if the sun is visible, take another sight at 9, 9.30, or 10 o'clock; work with the same 2 latitudes, and it will give a line to draw from lat.  $45^{\circ}$  to lat.  $46^{\circ}$ , either S.W. by S. (true), or S.W. (true), or between the two if at 9h. 30m. For the second line of position with the same conditions as regards chronometer, then, from any point in the southern end of the first line, draw your course N.E.  $\frac{1}{2}$  E., and cut off the distance run in the interval, and through that point draw a line parallel to the first line which shall cut the second line in place of ship at second observation; then from this point draw a line S.W.  $\frac{1}{2}$  W. till it cuts the first line in the place of ship's *first* position, or if the sun does not show out after the first altitude, draw an imaginary parallel at  $45^{\circ} 30'$ , and where it cuts the first line of equal altitudes, draw the second line from  $45^{\circ}$  to  $46^{\circ}$  in the direction that the line of equal altitudes should take *at the time required*, and act as if an observation had been taken, thus—



The first line of equal altitude was drawn for 7 a.m., supposing no sight to have been taken; with an observation,

it would lie within one side or the other of place by dead reckoning.

If you have two sights, however the longitude may err through the chronometer being wrong, *the latitude is always right*, and the line of second observation will, if produced, cut the land in the right spot as surely as the first did. On a clear night, a star *on each side of the Meridian*, or the moon one side and a star or planet the other, will give two lines of equal altitudes, cutting each other *diagonally*, worked with two guess latitudes, 10, 20, 40, 60, or more miles apar, and if taken simultaneously, will cut each other in the exact position of ship. Another thing, the four sets of figures used in working two altitudes by Sumner with two latitudes, are a *mutual check upon each other*, and it is next to impossible to make an error in working them.

JOHN W. STRAUGHAN.

---

## THE NEW RULES FOR THE THAMES.

---

*To the Committee of the Shipmasters' Society.*

HARROW, Dec. 9th, 1879.

GENTLEMEN,—Captain Digby Murray has been kind enough to give me a copy of the reply to my letter to the Conservators of the Thames, which he has forwarded to your Committee. I have read it with great care and interest, and I desire to say that there is no word in it to which I can possibly object. He deals with me with the freedom I have myself used towards others, and which I think almost necessary in the discussion.

As to the matter of his reply, my impression is that should he have leisure to pursue the subject, he will ultimately find himself beside me. My letter and his reply form together so



excellent a basis for discussion that I should be sorry to alter it by a word.

Those who believe in the possibility of reducing the frequency of collision must, with me, thank Captain Digby Murray for his contribution, in which he unites the practical views of the experienced seaman with some of the knowledge which can only be gained by study. That at present we differ, only shows how necessary discussion is.

I am, Gentlemen, yours obediently,

P. H. COLOMB.

---

[In the following, the extracts from Captain Colomb's letter, which appeared in our numbers for October and November, 1879, pages 484 and 541, are printed in smaller type, while Captain Digby Murray's comments thereon are printed in larger type, and immediately follow the particular extracts to which they refer.—EDITOR.]

---

**RULE 25.**—“ *When two steam-vessels proceeding in opposite directions, the one up and the other down the river, are approaching one another so as to involve risk of collision, they shall pass one another port-side to port-side.*”

**Sec. 3.**—The first objection to the rule is, that it is really a simple revival for steamers in the Thames, of the old Clause 296 of the Merchant Shipping Act, 1854, being the only rule which has received distinct and absolute condemnation from an authoritative body.

This is not quite correct. Section 296 of the Merchant Shipping Act of 1854 was a sea rule. Steam-ships navigating the Thames and other narrow channels were provided for by Section 297 of the same Act.

Captain Colomb does not appear to understand that the Thames Rule 25\* to which he refers, has been drawn expressly with a view of preventing vessels crossing one

---

\* Rule “22” of the new draft rules.

another's bows, and is therefore limited to steam-vessels approaching one another in opposite directions so as to involve risk of collision.

Sec. 4.—The second objection to it is that it has been absolutely condemned by the explanatory clauses of 1868, by which it is admitted that the law of passing port-side to port-side (which however worded is merely an order to port the helm) when danger is apprehended, requires for the safety of shipping a stringent and precise limit to those cases where, as at night, each ship sees both side-lights of the other.

Such a limit, however applicable to the sea, is not applicable to a river, when, owing to the tortuousness of the channel, two ships may be directly approaching one another on the same curve, and still may not be end on, or nearly end on, so that each ship sees both side-lights of the other.

Sec. 5.— . . . . They (the Thames Traffic Committee) most judiciously and rightly assert that they ought not to adopt rules “differing entirely from the rules which have been adopted, not only by this country, but by all maritime nations for the government of vessels elsewhere.” . . . .

Sea rules are not, and cannot, be applicable to the narrow and tortuous channel of a river.

Sec. 6.—The fourth objection is that the rule is against the weight of the evidence both before the Conservators in 1867 and 1870, and before the Thames Traffic Committee.

I cannot agree that this is the case. On the contrary, I think the weight of the evidence is overwhelmingly the other way. Many of the members of the Thames Traffic Committee, myself amongst the number, were, when first appointed, in favour of a starboard-hand rule, but a careful study of the subject, and of the evidence taken, changed the convictions of all but one.

*Foot note on page 486.*—Last year I was in the company of about forty shipmasters, and I put the question to them, “Does anyone here present desire any extension of the port-helm rule?” There was quite a burst of “No!” in answer.

The shipmasters were quite right, and the late Rule of the Road Committee were of the same opinion, and abolished the

rule in the case of sailing ships, but the present draft rule is only the sea rule varied to make it applicable to the Thames, which the sea rule is not.

Sec. 6, line 18.— . . . Or a rule of keeping the starboard-side of the channel as rejected. . . .

Sec. 7.—The rule of keeping the starboard-side of the channel, when combined—as it should be—with an order forbidding steamers to cross the bows of others to gain it, will be no such inconvenient or impossible rule as the witnesses have apprehended. It will never drive a steamer in amongst the small craft, and out of the clear channel. The rule must contain some words limiting it to cases where it is safe and practicable, or even *not inconvenient*; as it would be neither safe, practicable, or convenient, to drive out of the clear channel into the crowded part, nor even out of the slack into the tide; the rule would not then apply, and would not be obeyed.

A rule to keep the starboard-side of the channel would often have the effect of driving a number of small steamers into the deep water channel, which would be much better out of it; and, if the starboard-side rule was adopted, an order forbidding steamers to cross the bows of others, to gain it would, to a very great extent, neutralize the rule and make helpless confusion.

The Committee contended that the exceptions to such a hard-and-fast rule would be so numerous that it would be hopeless to enact it, besides which it would, in many parts of the river, have the practical effect of decreasing the width of the channel available for navigation. Again, if this rule was established merely, as Captain Colomb would propose, as a maxim, the Law Courts would by their ruling soon give it the effect of a hard-and-fast rule.

Under the proposed rules or bye-laws, it is just as lawful to pass starboard-side to starboard-side as port-side to port-side; it is only when vessels are MEETING in opposite directions, *i.e.*, proceeding in opposite directions, the one up and the other down the river, and approaching one another so as to involve risk of collision, that they are required to pass port-side to port-side.



Sec. 7, line 12.—All that it could possibly do when rightly guarded, would be to get any two steamers passing in opposite directions, into a preliminary position of safety before either began to act in reference to the other.

This is precisely what the present draft rule will do.

Sec. 7, line 19.— . . . . Pilots want, and properly ask for, the right they now exercise so freely, of passing one another in safety on either hand according to the state of the traffic. . . . .

The present draft bye-laws, as also the recommendations of the Thames Traffic Committee, accord them this right.

Sec. 8.— . . . . Hence, because a steamer is in sight coming one way, another steamer going the other way is driven by a compulsion, from which there is no escaping, into the loose traffic however crowded it may be which lies upon her starboard hand. . . . .

This is not at all the case, and it is quite evident that Captain Colomb has failed to master the signification of the rules, and until he understands them he of course cannot fairly criticise them.

Sec. 9.— . . . . A port-helm rule says, “Never mind on which side of the river you are when you are free to go either side, but when a ship approaches and you are on the wrong side, then you must cross her bows to get to the right side.” . . . .

This is quite erroneous and is the exact reverse of the fact. Captain Colomb should carefully read the paragraph, “steamships meeting in reaches.” Page 19, Report of Thames Traffic Committee.

*Foot note on page 488.*—It is remarkable, however, that the witnesses hint that if *all* traffic was recommended to keep its own side when it could, they would not object. It has always been my view that this recommendation, for it is nothing more, should be issued.

A rule with innumerable exceptions is in reality no rule at all, besides which the ruling of the Courts would soon make a hard-and-fast rule of it. A mere recommendation would be quite useless, and would be disregarded at pleasure.

Sec. 10.— . . . . The Thames Traffic Committee took me much to

task for desiring that seamen should be authoritatively reminded that when approaching another ship, they could not tell what was going on on board her unless they got some sort of signal from her. . . . But if we had such means, a rule of port-helm would be obviously unnecessary, as is so clearly shown by the American practice, where one ship takes command of both by signal without any "Rule of the Road" whatever. . . .

Capt. Colomb says, Q. 5892, Thames Traffic Committee:—

"Therefore you must disregard what is going on in the approaching ship altogether, and do that which would conduce to your own safety, supposing she had no look-out, because you are in immediate danger."

As far as I can venture to give an opinion as to the general conclusions arrived at by the Committee, they were to the following effect.

That some definite rule was desirable, so that the one ship could tell, with some tolerable degree of certainty, what the other ship was about to do. If steamships in the river Thames use, in the future, the steam-whistle signals, as I sincerely trust they may, even when navigating strictly in accordance with the bye-laws, this uncertainty will be reduced to a minimum, and may even in time cease to exist at all.

*Foot note on page 489.*—The adoption of signals shows this. The rule was a substitute for signals. When the Americans adopted signals they rightly abolished the rule.

This, if intended to apply to the sea rules, is not the case. The Americans could not violate their international agreement in this respect, and in the vicinity of their large seaports, the whistle signals and Rule of the Road are found to work well together.

Sec. 10, page 490.— . . . Any rule, such as this, No. 25, which assumes to get two commanders to think alike, without providing the means, stands condemned on mere grounds of common sense. . . .

The means are provided.

Sec. 11.—The last formal objection which I have to urge against Rule 25, will only appeal to the judgment of those who have made themselves



acquainted with what has been done of late years in measuring the turning powers of steamships. The Thames Traffic Committee treated with lightness, if not with some scorn, my data on this head, but only, I am persuaded, because it was new to them, and because they did not examine it sufficiently to recognise its importance. . . .

I think not. The Thames Traffic Committee were in possession of all the data on this subject. It was only in the application of the data that they differed from Captain Colomb.

*Foot note, page 490.*—Anyone reading Mr. Farrer's cross-examination of me, at p. 233 of the Report, will see how completely even his acuteness failed to grasp the points, and how, without being quite aware of it, he has laid down the proposition that in making laws for ships we should ignore their properties.

Is it not just possible that the lack of acuteness might be found elsewhere?

The fallacies contained in Captain Colomb's remarks as to the Rule of the Road at sea, the draft Bye-laws of the Thames Conservators, and the recommendations of the Thames Traffic Committee, are for the most part attributable to his diagrams.

In Fig. 1, page 491, the vessels are drawn at a distance from each other of but little more than two lengths, or according to the scale, of 760 feet. They are approaching one another at the rate of 10.44 knots each, or 20.88 knots per hour, equal to 126, 929.52 ft., which would give their distance from each other in time twenty-one and a-half seconds. In Captain Colomb's own words, Q. 5997, Thames Traffic Committee, these vessels are "*hors de la loi*." Twenty-one and a-half seconds for the commander to make up his mind, and for the helm movement.

It is quite clear that if both ships keep their course there will be no collision. There is no time for Y to starboard so as to make the curve described on the diagram, and the vessels are so close that collision, except on paper, is probably inevitable.

In the diagram Captain Colomb has drawn (Fig. 1, page 491) he suggests that Y should starboard. It is impossible in the time unless the vessel was previously under starboard-helm, but in that case X crosses Y's bow from port to starboard, which is the thing above all others that Captain Colomb insists should never be permitted.

See pages 550 and 554, showing the time required to put the helm from amidships hard-over in different ships with and without steam-steering gear, and at a speed of 10 knots instead of 10.44 as he represented.

If he ports at a proper distance. When the ships get so close together that there is not sufficient time left for the movement of the helm, what does it signify what the order is?

It took H.M.S. *Agincourt*, when going at a speed of 10 knots, one minute and three seconds to put her helm over  $29^{\circ}$  with 35 men on the relieving tackles, and the ordinary wheel double manned.

The *Himalaya*, formerly a merchant vessel, takes one minute and forty-five seconds to put the helm hard-over from amidships, using a double wheel and six men.

Captain Colomb invites us to manœuvre a ship with 21.5 seconds for thought, transmission of the order, and putting the helm over. Query. What deviation is it possible to accomplish from the vessel's previous course in that duration of time?

Bearings in collision cases are generally very unreliable, as testified to by different witnesses; and, indeed, I may go much further, and say that I have hardly ever known a look-out give a bearing correctly; and rarely an officer, until after considerable experience and training. But I am unable to see how that helps Captain Colomb's argument.

Sec. 17.—Now, unless we are going to say that these two ships were altogether different from all those whose turning powers have been measured, we cannot suppose that either of them would have turned, with their helms

hard over, on an arc of a less radius than  $2\frac{1}{2}$  times their length. The *Princess Alice* was 219 feet long, and the *Bywell Castle* 254 feet long.

It took a merchant steam-ship, 437·6 feet long, on load-line, 15 minutes to complete an entire circle, with the helm hard over. Speed, on entering circle, 15 knots. Supposing, roughly, that her average speed on the circle was 12 knots, this is equivalent to a diameter of nearly seven times her length, or a radius of  $3\frac{1}{2}$ .

*Foot note, page 495.*—The “final radius” of 25 of H.M. ships, single screws, of all sizes, and all speeds from 16 to 8 knots varied from 5 to 2 lengths. Two lengths is rare, and the average is nearer 3 than  $2\frac{1}{2}$  lengths; but the final radius is in all cases less than the radius of the first part of the turn. I should doubt if any ship turns the first 90 degrees at a less mean radius than 3 times her length. Six paddle-steamers examined show even larger arcs.

This is quite within the mark. I should estimate the radius for merchant steam-ships when turning the first quadrant of the circle, to be in excess of  $3\frac{1}{2}$  lengths.

The curves drawn here (Fig. 2, page 496) are entirely arbitrary, and it is almost impossible to derive any advantage from their discussion.

Captain Colomb's assumption in drawing them is, I presume, that the helms of both vessels were hard-over during the period they were making the curves, a view which the evidence does not warrant. The radius of the curve varies infinitely in different ships, of different speeds, different rudder area, different diameter of screw, different engine power, and of different form, which latter influences the position of the centre of gravity, and relatively of the pivot point; but when to all this is added the difference of helm-angle, and the action of the tide in either accelerating or retrograding the turning of the vessel, how can it be possible to make due allowance for all these factors and draw curves of any practical value for purposes of argument.



I am not able to follow this line of argument—[See Sec. 18.]—even if we allow the radius of the curves to be correct for these particular vessels, when proceeding at a speed of 10.44 knots, and with their helms either hard-over or at some definite angle, they can only remain constant for that particular speed, and that particular helm-angle, when navigating in perfectly still water, uninfluenced either by wind or tide.

Sec. 20.—It is one of those facts ascertained beyond dispute, that when a ship is turning under the action of her helm, the line of her keel is nearly a tangent to the arc she is describing.

This does not appear to me to be correctly worded, but still, what is meant is obvious.

It would probably be better to say that the keel of the ship, at any given moment, is always at right angles to a radius drawn through that point of the arc which at that same moment coincides with the pivot point of the ship.

Sec. 20.—Hence when two ships come into collision, one under port and the other under starboard-helm, the intersections of their lines of keel at the moment of collision will be nearly at the same angle as the intersections of their arcs.

This is quite evident, but is it one bit easier to determine this correctly than it is to determine how each ship was heading at the moment of collision? I should say it was more difficult.

Sec. 20.—It follows from this, that if we know what helm ships were under when they came into collision, and if we know the angle at which their lines of keel intersected at the moment of impact, we can tell with a certainty, more or less absolute according to our knowledge of their respective turning powers, where each ship came from; what lights ought to have been seen; and what were the real causes of the collision.

Only provided that the helm-angle has been continuous for some little time previous to collision, and that the turning power has not been affected by wind or tide.



Sec. 21.—It is stated by the *Bywell Castle* that the angle between the lines of keel was about  $50^\circ$ , and by the *Princess Alice* that it was from  $20^\circ$  to  $30^\circ$  at the moment of collision. If we take it at  $20^\circ$ , we place the ships as they are in Fig 3. There is then no escape from the conclusion that the *Princess Alice* must have come over some curve A P, and the *Bywell Castle* over some curve Q B. If we admit the *Bywell Castle's* evidence in full, and that the line C D represented the *Princess Alice's* line of keel at the moment of impact, then the *Princess Alice* must have come along some curve R P. But it is plain that under neither condition is it physically possible that the *Princess Alice* could have been ever to any extent on the port-bow of the *Bywell Castle* while under starboard-helm.

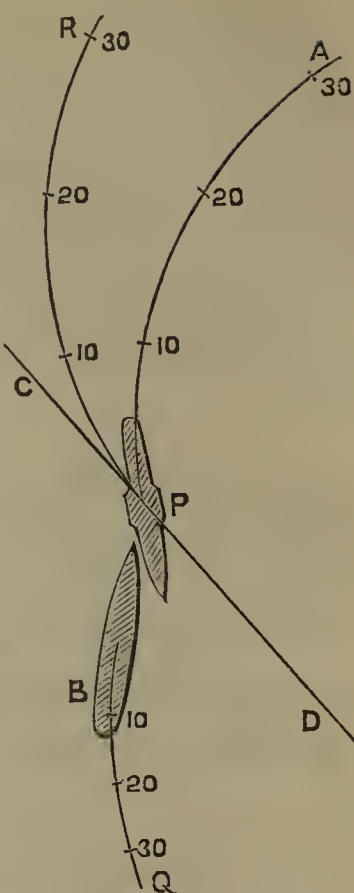


FIG. 3.

Captain Colomb does not appear to consider the effect of the tide on these curves, which, in the case of the *Princess Alice*, must have been very considerable. As Scale 200 ft. =  $\frac{1}{2}$ -inch. the causes of the collision between the *Bywell Castle* and the *Princess Alice* have been authoritatively determined by the Courts, it is not open to me to enter into a discussion on this particular case.

Sec. 22.—Those who are prepared to deny the truth of this method of ascertaining the facts of a collision, must also be prepared to deny all the experiments on the turning power of ships—amounting to thousands—which have been made within the last twenty years. They must also be prepared to deny what all the leading officers in every Navy now admit as the very alphabet of manœuvring in steamships.

The time occupied in turning and the radius of the curve varies so greatly in different ships that I do deny the practical value of this method of trying to ascertain the facts of a collision.

The value of the thousands of experiments alluded to by Captain Colomb are comparative. Even one of the latest and best examples, that of the *Thunderer*, has not been conducted with that amount of scientific accuracy which we may

reasonably hope, with improved methods, may be attained to in the future.

Sec. 23.—But though the Thames Conservators may not be hardy enough to set themselves against knowledge so familiar to the well-informed . . . .

Who are the well-informed; those who agree with Captain Colomb?

Sec. 23.— . . . . And so endeavour to avoid a precise truth by a vague generality . . . .

Any computation of the curves of these two ships, which leaves out the effect of the tide on their turning powers, is most decidedly a vague generality and not a precise truth.

*Foot note, page 542.*—Both the Committee on the International Rules, and the Thames Traffic Committee, have regarded these definite facts, and the methods resulting from them, as the dreams of a well-disposed enthusiast. . . .

They have not denied the value of the experimental data, but simply the particular application of them suggested by Captain Colomb.

Sec. 23.— . . . . Now, there was a  $2\frac{1}{2}$ -knot tide. If there was no eddy, the tide could have had no effect. If there was an eddy, let us allow that the tide acted wholly on one ship and not at all on the other. Let us, in fact, admit another physical impossibility. A current, moving  $2\frac{1}{2}$  knots in one hour, will move 83 yards in a minute—just the length of the *Bywell Castle*. As this is certainly far beyond what is possible, I leave those who wish to do so to apply the impossible and see what it comes to.

Captain Colomb speaks of the tide with reference only to the speed of the two ships, and not to its effect in neutralising the action of the helm, as in the case of the *Princess Alice*, rounding the point with starboard helm, and catching the tide, on her port bow, or to its arresting the action of the helm when acting in the same direction.

Sec. 24, line 17.— . . . . The *Princess Alice* was coming along some curve A P, under more or less starboard-helm. At first *less*, at last *more*.  
. . . .

But how about the effect of the tide on the curve, to say nothing of the variation produced by differences of helm-angle?

Sec. 25.—. . . . Would Rule 25 in any way have touched this collision except to make it more certain? . . . .

“Rule 25” evidently refers to the rule so numbered in the report of the Thames Traffic Committee, but if those rules are substantially adopted, vessels in a similar position would, in the future, be governed by Rule 26, *i.e.*, the rounding points rule.

Sec. 26.—“For besides the nearness of ships to each other . . . .”

They will, of course, be nearer than in an open seaway; but not near in the sense applied to them in Captain Colomb’s diagrams.

Sec. 26.—. . . . “It would be fatal to call on one ship to act in any particular way towards another whose motions are determined by those of a third ship.”

This has been fully recognised both by the Thames Traffic Committee and by the Thames Conservators, and is met in the draft bye-laws by Rule 1, supplemented by the compulsory use of the steam-whistle signal.

Sec. 27.—. . . . If, therefore, you cannot enforce the starboard-shore rule, you must free the helm. And why not free it? . . .

For all practical purposes the helm has been freed.

Sec. 28.—. . . . All witnesses are against a hard-and-fast starboard-shore rule; they are equally against a hard-and-fast port-helm rule . . .

The Thames Traffic Committee have recommended neither; it is what they particularly objected to. They did not wish the light draught steamer, steaming in perfect safety in comparatively shallow water, to sheer across the river to cross the bows of a steamship navigating in the deep water channel with the object of passing port-side to port-side.

Sec. 29.—On my side, I answer to this: The Parliamentary Committee of 1860 condemned your law. So did the Order in Council of 1868. . . .

No. This was the sea rule.



*Foot note, page 548.*—How is a ship going down the river at night to tell whether the lights she sees are those of a vessel “crossing,” or of a vessel “proceeding up the river.” And what is, in fact, a “crossing” vessel? Is the term limited to ferry steamers, such as ply between north and south shores, as at Woolwich? or does it extend to steamers which, plying up and down the river, call on piers first on one side and then on the other? [Yes.] or does it include steamers which pass from one side to the other to cheat the tide? [Yes.] Every time a ship which, considering herself a crossing vessel, starboards her helm to “keep out of the way” of the green light of a ship passing up or down, she is liable to be run into by the other which is endeavouring to obey the law—as she understands it—of passing port-side to port-side.

She has no business to attempt to cross when there is any danger of collision.

Sec. 30.—. . . We are forgetting that times have changed; our Committees are dealing with the knowledge of 1840, when they should be using that of 1879.

I do not think this is correct. The Thames Traffic Committee had before them the *Thunderer* experiments, and those of many other ships of the Navy and the Mercantile Marine, and I myself made a short analysis of the more recent results. Information was as open to the Committee as to Captain Colomb.

*Foot note, page 549.*—See as conclusive evidence of this, Mr. Farrer’s cross-examination of me at p. 233 of the Report of the Thames Traffic Committee.

I am, with Mr. Farrer, equally at a loss to understand Captain Colomb’s position. Captain Colomb says, “Q. 5960,” Thames Traffic Committee, that it is safe for two ships to try to pass under one another’s sterns ! ! ! ! At page 233 he tells Mr. Farrer that this would not be safe in the case of men.

*Foot note, page 550.*—This property of steamships is very commonly forgotten. I have examined 63 ships of all classes, with engines of from 200 to 8,000 I.H.P., in order to see, when all is prepared beforehand, how soon engines can be stopped. The time varies as might be supposed, and increases with the size of the engines. It is always a sensible interval,



sometimes as great as 70 seconds, often from 15 to 20 seconds, seldom under 5 seconds. Then, according to French experiments, we cannot expect, after engines are stopped, a fall in speed over 15 per cent. per minute.

The *Himalaya*, when steaming 10 knots, can be brought to a standstill in three minutes, distance 1,200 feet. It takes, at this speed, one minute and forty-five seconds for six men, using a double wheel, to put the helm hard-over from amidships.

*Diagram, page 551, Fig. 4.*—In all these positions X is to cross Y's bows from port to starboard, in direct contravention of Captain Colomb's own rule.

There is no doubt that if it was authoritatively laid down that one ship might not cross the bows of another from port to starboard, the Courts would naturally rule that a vessel might cross the bows of another from starboard to port, and indeed, I believe this is Captain Colomb's intention, but he prefers maxims to rules. The Law Courts would soon make rules of the maxims.

Sec. 34.—These conditions are, that there are four periods of approach. First, when the distance is so great that they cannot come into collision by the use of either helm, as at  $X^2 Y^2$ . Second, when collision may be made if  $X^1$  ports and  $Y^1$  starboards, and both persevere in using those helms. Third, when collision is impossible if only Y starboards. Fourth, when collision cannot be avoided. Now, if we are going to say that a law of port-helm must be instituted to keep these ships clear of one another, we must clearly rest it upon the necessity during the second period, that is, when the ships are nearer than  $X^2 Y^2$ , and further apart than X and Y. This is evident, because they cannot come into collision by opposite helms at  $X^2 Y^2$ , and because port-helm for Y will make a collision at X and Y. In plain terms, we propose to order Y to port at  $Y^1$ , not because it is unsafe for her to starboard if X will only let it alone, but

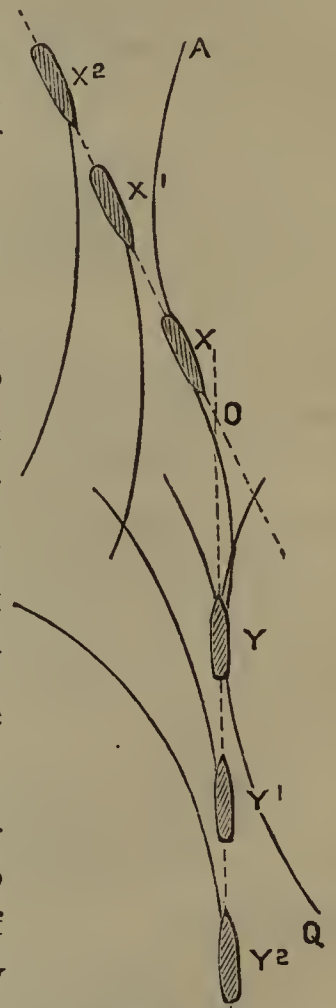


FIG. 4.

Scale 200 ft. = .33 in.

because X might not let it alone, but might persevere in porting when it was dangerous. But if we forbid Y to starboard at Y<sup>1</sup>, how are we to get her to starboard at Y? The danger is far greater and the time is much shorter. If she cannot use her wits at Y<sup>1</sup> to escape collision, by what sort of logic do we suppose she can use them at Y? In instituting a rule of port-helm when there is a risk of collision, it becomes, therefore, plain that we say the dangers of wrong helm are greater at a longer than at a shorter distance. Not only so, but the dangers at the longer distance are so much greater than at the shorter, that we will make a law which will even *encourage* wrong helm at the shorter distance rather than not forbid starboard-helm to Y at the longer distance. Were ever such strange conclusions come to on any other subject?

If Y starboards long before she comes into proximity with X, she will clearly not be approaching X with danger of collision; and, in that case, always provided X did not port, the rule would not apply; but if X and Y are both vessels navigating the deep water channel, especially at night, it would undoubtedly be the safest course for both to port when at a sufficient distance from one another, so as to keep each to the starboard-side of the deep water channel or fairway; and, in other words, pass port-side to port-side; and this is what the draft rule implies.

Sec. 35.— . . . . If X<sup>1</sup> could get her stern clear over Y's arc before Y's bow reached the crossing, then it would not be possible for Y<sup>1</sup> to make a collision. If Y<sup>1</sup> in like manner were much faster than X<sup>1</sup>, or starboarded her helm much before she ported, so as to get her stern across the arc before X's bow reached the crossing, then it would not be possible for X<sup>1</sup> to make a collision. . . . .

To settle these arcs on paper is easy enough; but how are two approaching vessels to know anything of the radius of each other's arcs or their points of intersection?

Sec. 36.— . . . . We want to encourage Y to starboard his helm as the only means of avoiding X at the last moment; . . . . and to press him to delay his starboard-helm to the last moment. . . . .

A most dangerous thing to do. We should discourage as much as possible anything being deferred to the last moment.

The man who endeavours, at the very earliest opportunity, to place his ship in a position of safety is the most reliable navigator.

Sec. 37.— . . . . We want him to starboard at the last moment, because therein lies his only chance of safety. But should he, as he may, be mistaken as to his distance, we want to press upon him that he ought to be sure that it is the last moment. . . . .

This is a very easy thing to say, but a very difficult thing to calculate, besides being very unsafe advice. If Y requires this information let him whistle for it, and in good time, not when collision is imminent.

As I have pointed out before, it is no use attempting to argue what two ships should do when they are so close together that there is no time for the helm movement. In a table at present before me of six of H.M.'s ships steaming 10 knots, I find it took two fitted with steam-steering gear 14 and 18 seconds respectively to put their helms hard-over from amidships. The other four took 38, 45, 63, and 75 seconds respectively, aided by luff tackles and other appliances.

Sec. 40.— . . . . “A steam-vessel passing one way in the Thames shall not have the right to cross from the port-bow to the starboard-bow of of a steam-vessel passing the other way.” . . . .

It appears to me that such a rule would have the practical effect of forbidding starboard-helm—for instance, see Captain Colomb's diagrams—without, at all events, this qualification, “unless the vessel passing the other way starboards her helm.”

“Shall not have the right,” would probably be interpreted by a lawyer SHALL NOT CROSS.

Sec. 40.— . . . . If under a rule of port-helm two ships are approaching green light to green light, it is open to either of them to suppose a “risk of collision.” . . . .

No, it is not; the draft rule proposes nothing of the kind.



Sec. 40.— . . . . By continuing her course, pass far a-head of Y, she is not interfered with to the extent of forbidding her so to act: but she is reminded *that she does it at her own risk*. . . . .

There is nothing in the draft rule forbidding anything which can be done with safety.

If she is not forbidden, “at her own risk” means nothing; if she is forbidden, it means, in event of collision, that the ship is legally responsible.

Sec. 41.—Passing to Y we see that this rule, though it implies that she has a right to keep her course, yet it avoids the mistake of the International Rules in *insisting* on her keeping it. It has the natural effect of making her delay to use starboard-helm in the expectation that X will use port-helm, but it leaves her judgment and her starboard-helm free for use before collision becomes inevitable. As her judgment ought to tell her that port-helm will be wrong for her in any case, the rule leaves her so far to follow her judgment. It avoids the mistake of the port-helm rule in calling on her to port against what would otherwise be her better judgment, in the hope—so often fallacious—that X will have the same idea at the same time, and will make Y’s port-helm, otherwise so dangerous, safe, by porting herself.

This appears to me to be much more dangerous than the port-helm rule, which latter is, besides, wrongly interpreted.

It would have been better if Captain Colomb had in Fig. 4 [p. 551] defined the banks of the river; but it would appear that he is making one or other set of ships, if not both, cross the river.

One thing is quite certain, that Captain Colomb is throughout putting a construction on the port-side to port-side rule, which that rule will not bear, as clearly shown in the Report of the Thames Traffic Committee.

Sec. 43.— . . . . Under the proposed Thames whistle-signals Y might sound her “two blasts,” but then X would be in a dilemma whether to obey the law or the signal, as the two things would be in conflict. . . . .

I think not; it would be an intimation from Y that, owing to special circumstances, she could not pass port-side to port-side, that she intended to starboard, and X would have to govern herself accordingly; but if there was a collision, Y



would have to show that she was justified in breaking or departing from the rule; of course, always supposing that she did so.

The important defect in Captain Colomb's diagrams is not only the very short distance the ships are drawn apart, but that he furnishes no statistics either for his readers or, apparently, for his own consideration, showing the time required to put the helm hard-over. In merchant screw steamers, moreover, when not steered by steam, this involves a slowing of the engines, which will still further affect the curves.

*Foot note, page 559.*—It is as certain as anything can be without actual trial, that the port-helm of the *Bywell Castle* made this collision. No other conclusion is possible, unless we credit the two ships with properties that no other have ever possessed. The Nautical Assessors came to a contrary conclusion only by ignoring the properties which are common to all ships.

Captain Colomb does not inform us what the interval was, or what time it would have taken for the *Bywell Castle* to have altered the helm from a-port to hard a-starboard.

Could this have been done under a minute; and, if it occupied that length of time, what possible effect could it have had on the collision?

(Sec. 45.) This refers more particularly to the sea rules which I will not at present discuss.

Sec. 46.—. . . Both the Committee on the International Rules, and the Thames Traffic Committee, but the latter in far greater measure, were offered by me the necessary facts for coming to sound conclusions. . .

The two Committees referred to were of opinion that the conclusions alluded to, which they were invited to adopt, were not sound, but the mere assertion by Captain Colomb that they are sound, and say of my own that they are not sound—are not worth the paper they are written on.

Sec. 46.—. . . Both Committees rejected all facts, each not understanding what they were doing, and imagining that they were rejecting the fancies of a visionary, when they were really declaring, almost in so

many words, that it was proper, in treating the Rule of the Road question, to carefully avoid considering what ships really were and how they moved, and to imagine them to be some sort of moving bodies with no properties whatever.

This is not at all the case.

Sec. 47.—On the Thames Conservators rests a profound responsibility. Are they going to remain in that blindness of which I have spoken ? . . .

It is to be sincerely hoped that they will not endeavour to mitigate that blindness which Captain Colomb assumes by looking through his spectacles.

Captain Colomb and I are not likely either to lose our tempers or to misunderstand one another, but as third persons may not be aware of this, I may say that Captain Colomb has privately intimated to me that he has struck out straight from the shoulder, and has invited me to strike straight back ; I have freely availed myself of his permission, and I am certain that he will take it in as good part as I do all that he has said with reference to the ignorance and want of information of the Thames Conservators, the Thames Traffic, and the Rule of the Road Committees, of which three bodies I am, or have been, a member.

DIGBY MURRAY.

*The Committee, The Shipmasters' Association.*

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The following is also on the same subject :—

I cannot pretend to analyse Captain Colomb's arguments against the present Rules, but it seems to me that there are two points which render it very difficult for any man of common sense to attribute much weight to his conclusions.

The first of these is that his conclusions are founded on the specific action of a given ship. Now the curve which a ship will make in the water with her helm hard-over, depends upon the following factors :—

1. Turning power, which again depends on many varying factors, such as speed, mass, form, rudder area, or any other element of construction.

2. Her helm angle.
3. The current or tide (if any).
4. The wind (for not only does the direction and force of the wind influence the turning of a steamer, but Captain Colomb would make no distinction between steamers and sailing vessels), besides which there may be—
5. External obstacles such as ships or shoals.

Each of these factors may be varied indefinitely, and the sum of their variations must be multiplied by two, in order to give all the different cases of two ships approaching one another. Therefore, to found a general rule upon careful experiments made with a single ship in still waters, or even with a dozen ships, seems to me to be *primâ facie* absurd.

Secondly, Captain Colomb supports his opinion by the analysis of the evidence in past collision cases, and in so doing he comes to the conclusion that the Courts which decided these cases were wrong in the conclusions of matters of fact which they drew from the evidence.

Now to suppose that the competent lawyers and sailors who decided these cases, after hearing and weighing evidence (which it must be remembered is always conflicting) were wrong, and that Captain Colomb, enlightened by his *Thunderer* experiments, is right upon these matters of fact, appears to me so contrary to what is probable that I can attach no value to it.

But, after all, the best test of Captain Colomb's theory is to take his own rule.

That rule is as follows:—

“A steam vessel passing one way in the Thames shall not have the right to cross from the port-bow to the starboard-bow of a steam vessel passing the other way.”

The first observation I have to make upon this rule is upon the words “*Shall have a right.*” I believe that Captain Colomb attaches some importance to these words.

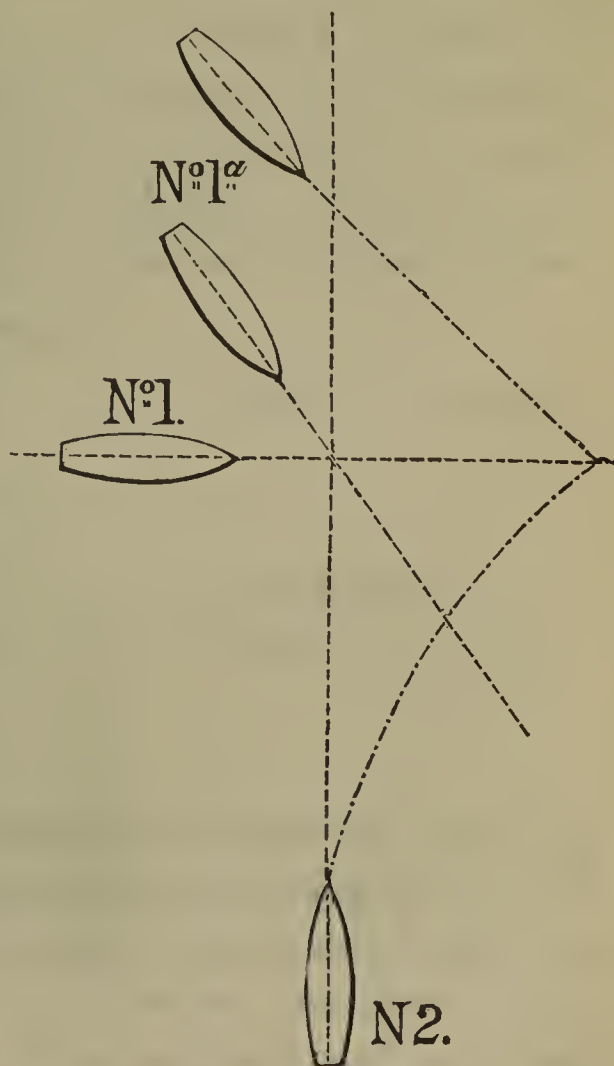
To me it seems that when construed in a Court of Law,



they will have no meaning at all that does not equally attach to the word "*shall*." If a person has a right to do a thing and does it, the law supports him ; if he has not a right to do it and does it, the law finds him in fault.

In effect, therefore, the rule is simply one that one ship shall not cross the bows of a second ship from the port-side to the starboard-side of the second ship. The second observation I have to make is that the rule will imply its complement, namely, that a ship may in all cases cross the bows of a second ship from the starboard to the port-side of the second ship. It must be further remembered that Captain Colomb in his desire to "free the helm," as he says, does not throw the burden of getting out of the way on one ship, but leaves both ships to alter their course.

Now let us see what the effect of his rule will be. Suppose in the first place that the course of the first ship No. 1 is at right angles to the course of the second ship No. 2, and that the first ship has the second on her right or starboard hand, and that she is a-head or nearly a-head of the second ship. In this case the only safe course for her to pursue is to go on and cross the bows of the second ship from port to starboard, and yet this is what, by Captain Colomb's rules, she is *not* to do. The other ship No. 2 again in



order to avoid collision has only to hold her course, or (if necessary) to starboard her helm, but Captain Colomb's rule



tells her that she will be right in porting her helm and going across the bows of the first ship from starboard to port.

The case I have put may be said to be an extreme one, and Captain Colomb may say I have misapprehended him, but all that I have said of the case I have put, will apply to ships in the same relative positions to one another but with courses intersecting at angles larger than a right angle (as in the case of No. 1A) until that angle becomes so large that they are practically meeting ships.

Captain Colomb's rule would therefore, in all these cases, and they probably constitute an extremely large proportion of the cases which occur in practice, lead the vessels into direct collision, whereas the existing rule of the sea, and that which is proposed by the Thames Conservators would do nothing of the kind.

If then the rule proposed by Captain Colomb leads to conclusions so absurd, it is not unfair to conclude that the reasoning upon which it is founded and the attacks which he is making upon the existing rules are without foundation.

(Signed) T. H. FARRER.

*December 2, 1879.*

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## THE DEPRESSION OF TRADE AND COMMERCE IN ENGLAND IN 1879 AND THREE PREVIOUS YEARS.

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**I**T has been said that during the past few years the trade of this country has been slowly but steadily decreasing, that the imports now exceed the exports by millions per annum, that our prosperity as a nation is rapidly decreasing, that in a few years national bankruptcy will be reached, that this country will cease to be the manufactory of the world; and that we shall lose our rank among nations.

It may be there was more truth in these statements than the reverse. They were statements made by men in all classes of the manufacturing and mercantile circles. They therefore deserve serious consideration from all who have a true and earnest love for their country, and a desire that England should for all time hold her rank among nations. If such statements are true, if they are only partially true, it behoves all to lay aside party feeling, to look the question boldly in the face, to put their shoulders to the wheel, and try in every way to arrest its downward course.

A great depression did exist in all interests—manufacturing, mining, mercantile, and agricultural—and to an extent such as had not been previously experienced during the present generation. Good and bad times have alternated pretty regularly, with the balance very much in favour of the good ; but the late depression continued so long, and against all hope of amendment, that the good time was despaired of. Year by year it increased in intensity, until the results were causing serious anxiety. Proofs of this depression were :—the stoppage of mills in the manufacturing ; the blowing-out of furnaces in the mining districts ; the enormous additions to the number of the unemployed ; the partial depopulation of many important towns—the inhabitants obliged to leave from want of employment, many emigrating to the colonies and America in search of a chance of life ; from all parts of the United Kingdom the cry was the same, “Nothing doing.” These were some of the most prominent signs of this commercial and industrial paralysis. These facts were visible to all. The public papers were full of them, public meetings were held to inquire into the causes, and to relieve the already starving multitude, so prevalent was distress. So prominently were these facts brought forward, and so continually were these meetings held, that we might have supposed, with good cause, that a collapse was even at our doors, and in our midst ; and that we might almost sit down in despair of any recovery.

In all directions evidences of waning prosperity were to be found. This waning prosperity, and decreasing income, were not confined to one class. It pervaded all. Never, in the history of this country, had agriculture proved so disastrous to the farmer; never had the landholders been in the position they were, their property so reduced in value, so unremunerative. Never had the manufacturing centres witnessed so many idle mills, and starving operatives; never had the shipping interest, which is one of the greatest in the kingdom, exhibited so deplorable a spectacle; never had the mercantile community to stand such continual stagnation; never had commercial operations been less remunerative, or mining interest so completely at a standstill as they became during the past year. Within the last eighteen months, we have witnessed the collapse of five or six banks, several first-class mercantile houses, and hundreds of smaller ones; increasing public expenditure and decreasing Revenue; a decrease in the exports, and a considerable increase in the imports. Distress seemed equally divided among all interests, the mining and manufacturing showing the worst results. Although we have happily recovered, in some measure, from the depression that did exist, it may be interesting and useful to inquire into the causes (as far as possible) that led to the distressing condition referred to.

It was once said that England manufactured for the world. Does she do so at the present time? The proof that this is not now the case is that the Americans and Germans are competing with the local trade in Birmingham; Japan is sending excellent and cheap boots, made of American leather; the high-class glass trade is rapidly going to France, the refined sugar trade has already gone; steel rails from Philadelphia are underselling those of the north; in paper, carpentering, lock-smithery, cloth, and calico, English made articles are being thrust aside by Belgian, Norwegian, and American commodities; a store has been opened in Sheffield for the



sale of German cutlery at a price considerably less than ours; the American edged tool is better in manufacture, and cheaper in price, than English made goods; and that the Americans are preparing to compete with us in the coal trade to Europe.

There must be a cause for this. Competition must be expected among nations, as with individuals. Does not the cause lay with ourselves. Take the analysis of some of the cotton goods of the present day:—cotton, 53 per cent.; china clay, 26 per cent; choride of zinc, 1.5 per cent; chloride of calcium, 0.5 per cent; starch, 12 per cent; fatty matter, 2.5 per cent; chloride of magnesium, 2 per cent; moisture, 2.5 per cent. equals 100 parts. Here, then, is an article that is only half what it pretends to be. If this is the same of all our manufactures, it is easy to account for other nations competing successfully with us, and is the great reason why the foreigner is able to supplant us abroad and materially injure our home trade. We are in the position of a shop-keeper who persists in attempting to supply the public with an article dearer and inferior in manufacture to the goods found in his neighbour's shop; the result being his goods remain unsold. Customers, after giving him one trial, go where they can get better value for their money, and never return to him. There is no doubt we are being rapidly supplanted from this cause in our Indian trade. There are now several mills in Bombay. All they produce is so much lost to the British manufacturer. Australian and New Zealand tweeds are all wool; consequently superior to most English tweeds. *Iron*, in one of its late numbers, says that "over a million sterling is annually made out of mungo and shoddy, and that as much new cloth is made every year from old rags, mixed with low class wools, as would supply the whole adult male population and children of Great Britain with a new suit, and all the women with a cloth jacket. If this is true, it not only solves the secret of cheap tailoring, but conjures up visions of an age of shoddy." It is an unhealthy demand for cheap and



showy goods that has caused their production. The wisdom of producing such goods for home consumption is very questionable ; but it is positive suicide to attempt to force them on foreign markets, and tends directly to lower the standard of English manufactures, and opens the way for another nation with a better article. We must expect competition. For any one to say we cannot produce as good an article as our neighbours is absurd. That we do not do so is, I am sorry to say, almost a fact. We must do it, or the loss of our trade is the inevitable result. Commerce is ruled by laws as inflexible as the laws of Nature. Neither can be infringed or ignored without rapid punishment following. If we insist upon producing inferior goods to our neighbours, they will remain unsold, and the trade will leave this country.

The commercial interests are so bound up with the manufacturing and mining that when these suffer and are depressed, the former must feel the effects ; but there are causes in the late depression in the commercial community that are peculiar to it. The first, and probably the greatest, is over speculation. Very much of our trade is genuine, but there is much that is very far from it. In times of prosperity, financial schemers are ever ready to start companies ; many that have no chance of success. In the three years previous to 1874, schemes to the value of £385,000,000 were placed before the British public. High rates of interest and dividends were paid for some time, investors increased their expenditure, millions were lent to Foreign States, railways and public works constructed or promised. Subscribers to loans thought their fortunes were made ; that all they had to do was to sit down and enjoy life. Since then everything has gone wrong. Companies have been wound-up by dozens ; calls made, instead of dividends paid ; foreign loans to an enormous amount in default. It is a question whether some are not hopelessly lost. Thousands are sadder and wiser men. The great evil is, the ease with which money is obtained for purely speculative

purposes, and the credit given to men who commence business with no capital whatever. Take, as an instance, in one branch of Commerce—the Shipping Trade to the Colonies. A man starts in business in London without capital, but with credit. He buys goods (that is the term; but how can a man be said to buy goods when he has no money to pay for them) at three and six months, giving bills; ships them; and gets an advance from a bank upon the bills of lading, say to one-half to two-thirds of their value. With this money he meets the first bill; gets more goods on credit to go through the same pawnbroking process to meet the second bill. For a time this little game goes on well; the market is good, he receives corresponding returns. The scene changes. Returns cease; he is immediately in difficulties. Bills become due, are renewed. Most people know what this means to the man of straw—Bankruptcy. He has no money to meet them; never had any; has been doing an imaginary business, and living on imaginary profits. These goods are forced on the market. A fall in price is the result, to the injury of the merchant who has legitimately embarked in the business. The latter loses his money, because he has paid for the goods; the former cannot lose, because he has never paid for them. The latter has shipped his goods to a port where, but for his mushroom competitor, he would have found a good and remunerative sale. All this must assist in causing depression in commerce, and render legitimate business unremunerative. On the return of the good times, which have already commenced, should this mad rage for speculation, bogus companies, and mania for lending money at exorbitant rates to Governments whose solvency is more than doubtful, together with the rotten manner of doing business as business is sometimes done, and the general over-trading that has unfortunately brought on the late depression, we may indeed expect that national bankruptcy will be reached, and possibly in a far shorter time than any man would think possible

For no good times can last long under such disastrous proceedings. Our good name will be hopelessly lost. That good name which was earned by our forefathers is in peril. I mean "England's commercial honesty." It depends upon the present generation to say whether it shall be lost in their time or not. The man that is honest only because it is the best policy, is little better than a rogue. A man must be honest from principle, or his honesty is very doubtful.

The Agricultural depression is now under investigation by a Royal Commission, to find out the cause and apply a remedy. The cause is not far away. The remedy is a long distance off, even if we can reach it. It is this question that has to be solved. The proposition stands thus : " The farmer has been for years playing a losing game with rents, rates, taxes, and tithes, how can he be made to stand successfully against his American and Canadian competitor, who has none of these burdens?" The Commission will probably find some way out of the dilemma. I hope for the farmer's sake it will be so. The past harvest has been one of the worst for many years. Since 1869 the wheat crop has decreased by nearly one million acres, and is more likely to decrease than the reverse. Even supposing this was not the case, can England supply the English with wheat for bread.

MANUFACTURING AND MINING INTERESTS.—Let us see what has been the tendency of trades' unions. Have they in any way caused or assisted in causing this depression? Have they been the means of admitting foreign products and workmen? Have they benefitted the operative, and what have been the results of short time and long wages, and the consequence of the immoderate use of intoxicants to the British workman.

Mr. Evarts, the American Secretary of State, says :—" The trades' unions have, as yet, successfully resisted all efforts to reduce wages, but this success has jeopardised England's supremacy in manufactures, and has been the main cause of



the great depression which exists in all the manufacturing and mining districts of the kingdom. A few more years of strikes and disorganization in England, and it may be doubted whether any compromise between the employers and the employed will restore to that country her manufacturing supremacy. As capital will not remain idle, nor permanently employed in unprofitable investments, it may be expected that English capitalists will seek new fields for investments, such as the transfer of cotton manufactures to India, which may be said to have already begun. Under such circumstances nothing will remain for the English working-man but emigration. If they drive the capitalist and manufacturer away they must also go."

Mr. Evarts can hardly be considered as prejudiced against our working-classes, but no more sweeping condemnation has ever been pronounced against trades' unions. This opinion is based upon facts, supplied from various sources, and is worthy the serious attention of the operative. By arraying himself against capital is he not cutting his own throat, pauperising himself, his wife and children, and assisting to ruin the manufacturing and mining interests of his native country and benefitting the foreigner?

Mr. James Hill, of Greenwich, writing upon this depression says: "Foreign competition has contributed to it, but several causes have been at work. 1. Over-production. 2. Trades' Unions. 3. Drunkenness and improvidence of the working classes. 4. The antipathy of the working-man to machinery. 5. The existence of short time and long wages. 6. The stupidity of the masters who prefer following old plans and producing the same class of goods, from generation to generation, instead of adapting themselves to the advancing spirit of the age."

TRADES' UNIONS.—Have these materially, for to-day and for the future, benefitted the working-man, and have they succeeded in coercing the masters? I think the past state

of the manufacturing and mining districts answers this question most completely. They have not been productive of any permanent benefit. What do we see? Continued depression in trade and strikes in all the centres of British industry, fomented by these unions. Strikes everywhere; linen hands at Forfar, engineers in London, joiners at Durham, dock labourers in Liverpool, carpenters at Dover, shipwrights at Jarrow-on-Tyne and elsewhere, stone masons at Ashton and London, mill hands at Blackburn, seamen on the Tyne, operatives at the Potteries, and goods guards and shunters on Midland Railway. With what results? Whether the men lost or won their fight, the invariable consequence is driving more nails into the coffin of British supremacy in trade; they have not compelled the masters to give the high wages demanded. If the principal intention of trades' unions was to keep up the price of labour without reference to its market value, they have most completely failed; the proof of this assertion is that everywhere, whether these unions exist or not, the wages of the working-man have been considerably reduced. Common sense would have told the operative that such an attempt could have but one end, ignominious failure to the union, and disastrous consequences to those who persisted in believing in an impossibility. What are the leaders of these unions about, when they tell the operatives that if they gain an extra penny per hour from their employers, or an hour or two less in the week's work, they have obtained a permanent benefit? Nothing of the sort. To them it is a dead loss. At the time when the whole of the commerce of this country was under the densest cloud that has ever over shadowed it, these mad strikes have but one ultimate effect, that is, to cripple the masters, to let in the foreigner, and to paralyse any influence that might be at work for a revival in trade.

Trades' unions, as they have been conducted, have been the curse of the working-man, and have gone very far in

assisting to the ruin of the manufacturing interests of this country, while furnaces go cold and spindles stand idle, the savings of the operatives disappear, one inactive industry compels many others to inactivity. Ratepayers are impoverished, exports and imports are diminished, orders pass away from an idle community, new markets are created, new enterprises spring up in foreign lands at the cost of the working-men. A few more years of trade union strikes and suicidal folly; let them continue the present self-willed and madly desperate strife against their best interests but a short time longer, what will be the result? Trade driven out of the country never to return, the operative left to starve or emigrate, or working at a wage that will hardly keep body and soul together. Take for an illustration the engineers' strike in the City of London. Thirty-first week (about 1,000 men employed) the strike has ended but with this result, the places of very many have been long ago filled up, many have emigrated, some have accepted the reduction, many driven out of London by poverty to seek work elsewhere, the works are going on without them. The union completely failed to coerce the masters, and having to feed so many idle men, their wives and children, so exhausted the funds that at last the union could only dole out a miserable pittance just sufficient to keep them from actual starvation; the strike on the Midland Railway collapsed in a very short time; the strike of the Dock labourers in Liverpool was at an end within a fortnight from the united action of the masters in rapidly filling up the places of those who refused at the bidding of the union to work, unless they received a specific wage. The conclusion of these strikes is only the conclusion of many, if not all; strikes then result in failure of the object sought, drive away capital and leave the working-man without food or shelter.

Trades' unions properly conducted are the legitimate endeavour of the working-man to obtain among other things, a fair remuneration for his labour, and should never have been



necessary ; had the masters seen their true interest, they would have been the first to acknowledge the intimate relations that exist between capital and labour, how capital might remain unremunerative without labour and that labour could not exist without capital to keep it alive. But when trades' unions take upon themselves to say such and such shall be the wages, men shall not work for less, they are shutting their eyes to the fact that wages must and will depend upon the demand for labour and the prosperity of employers ; if this was not a fact, we should not have seen the collapse of these attempts to fix wages, and the consequent misery of the working-man deluded into believing a doctrine that he did not take the trouble to doubt, and which his own good sense would have told him was absurd but which he blindly refused to use. The demands of the working-man fostered by these trades' unions have become so unreasonable, that to accede to them means ruin to the masters. Here the foreign workman unfettered by unionism steps in and takes the work out of the hands of his English brother. Take for an illustration of this the masons strike at the New Law Courts, in London. Numbers of German and other foreign masons came over to take the places of the men on strike, and carry on the works. Did the trades' union stop this ? Did they send them back ? Were they able to prevent them coming ? Were the masters compelled to give in ? The union could do nothing. What then is the use of such union ; to be a success, it should have done all this. The trades' union should have foreseen the future, and prevented its fulfilment.

Trades' unions have then failed in their object to keep up high wages. If this was all, there would have been no permanent mischief, but they have, from their exorbitant demands, compelled the masters to close their mills and blow out their furnaces, a result the unions never contemplated when it commenced the agitation. They forgot that the master required profit on the capital employed ; that if

profit went to the operative, he must take his capital where it will be remunerative. The result of these strikes has been to let in foreign products, manufacturers and workmen, to assist, in a great measure, the late depression, and to reduce the wages of the operative to a point considerably lower than they have been for years ; and unless the working-man can be made to see that his strikes, his shortened hours of labour, his over-developed trade unionism, his want of education to see beyond immediate to future profits, are ruining the commercial eminence of this country, and killing his own prosperity, there can be no lasting return of good times, but only fitful recoveries ending more and more in the complete triumph of the foreigner. Trade unions have then directly contributed to the depression in our manufacturing and mining industries.

SHORT TIME AND LONG WAGES, as propounded by the trades' unions, mean to the masters increased cost of production, and a higher price to the consumer ; and, as these latter are all over the world, and are as ten thousand to one, when compared with the operatives, it follows that the millions are to pay the thousands for doing nothing for so many hours in the week, and increasing to them the cost of every article they require. Such restrictions and demands imposed by these unions are, to say the least, absurd ; and cannot be carried out, unless the British workmen are prepared to give a fair day's work for a fair day's pay. The British capitalist will have to abandon the development of commercial industries, from utter inability to contend with continental manufacturers, who are not under these disadvantages, or to import foreign workmen, who will do that which the British workman refuses to do. In either case the ruin of the British operative is the result. How can a hard-and-fast line of 51 hours per week be productive of any real benefit to the working-man ? It certainly gives him more hours of liberty ; but prevents him earning money, and puts the honest hard-

working-man on a level, as regards his week's earnings, with the idle and lazy. The trades' union say to him, "You shall earn so much and no more; you shall work so long and no longer; whether you like it or not." How is it the British operative has been made to bow down before these unions, and believe such pernicious nonsense. Every man has the undoubted right to do the best he can for himself; to work as long or as short a time as he pleases, and earn as much money as he can by his labour. This the trades' union says he shall not do. If the British workman will continue to sit still while the foreigner works (while the first only puts the capital of eight hours and a-half, while the other willingly subscribes nine hours and a-half into a day's work), if the British workman will continue all the year round to drop his tools at half-past five p.m., if not before, and at one p.m. on Saturday, while the foreigner will work late and early, and all Saturday, there can be only one termination to such a stupendous piece of folly. The British workman will find himself superseded by the foreigner in every branch of his business. Time is the workman's money, just as much as gold and silver are that of the capitalist; and, if he will not put in time, his contribution on fair wages, capital will seek those that will, and leave him to starve. How is it that the workman is thus held in subservience to those who do not know where to stop in the application of trade union rules, or how to look beyond the pence of to-day, to the shillings of next month, and to the sovereigns of the year. Unless they are wise in time, nothing will save the workmen from their impending fate; and the catastrophe will be directly due to the restrictions they have imposed upon themselves, through their trades' unions. Look where you will, the industrial products of the foreigner threaten more and more keenly every year, not only from their superior taste and skill, and purer material, but by that cheapness of manufacture that proceeds from longer hours and lower wages, to destroy our



manufacturing interests, and to bring ruin upon the capitalist who has embarked in these enterprises, and upon the workman who blindly refuses, to see the gulf that is opening under his feet. The few who have their eyes open to this fact are powerless to stay or ward off the final result. The foreigner has not our advantage of raw material, of vast plant, of habitual skill, of established markets, or of large financial resources; but he has as many hours in the day as anybody else, and this equality enables him to outstrip and undersell his English rivals, otherwise his superiors.

Short time and long wages increase the cost of the article to the producer or manufacturer and to the public. The foreigner steps in with a cheaper article, and undersells the English merchant. This tends directly to produce depression in our centres of industry, which will continue until the cause is removed.

DRUNKENNESS AND IMPROVIDENCE OF THE WORKING CLASSES.—The total consumption of spirits, wine, tobacco, &c., in this country, amounts to the enormous sum of £142,000,000 annually; £100,000,000 of this amount is said to be spent by the working classes alone. Taking the population of the United Kingdom at 35,000,000, it gives £4 per annum spent in intoxicants by each man, woman, and child, the infant at the mother's breast, as well as the adult. About 85,000,000 bushels of grain are used annually in this country in the production of spirits, to the curse of everyone, abstainer or drunkard. This curse has caused the poor and police-rates to reach the enormous amount of £14,875,641. The loss of labour by drunkenness is one-sixth of the entire labour produce of this country. The total direct and indirect loss amounts to £280,000,000 per annum. The numbers of paupers in the metropolis alone, at the end of the second week in September last, amounted to 79,500, but for this drink there need be no poor (in the present sense of the term) in England; only the aged and the infirm would require relief,

the numbers of these would be few, but for this drink the entire police-force might be done away with, and those that now fatten and grow rich upon the vices and wickedness of their neighbours would find their occupation gone. The working-man earns £450,000,000 per annum and spends £100,000,000 on drink and tobacco, during the times of prosperity and high wages. He has laid by nothing for bad times and consequent decrease in wages; he trusted to trades' unions and strikes to keep up the rate, ignoring the fact that it would be better for the masters to close their mills and blow out their furnaces than to comply with his demands. This subject merits much earnest consideration from the working-man. His future is in one sense in his own hands; by his intemperance and improvidence he is rendering himself unable to meet slack times; therefore, it is his own improvidence that has been telling so heavily against him.

Should the working-man be asked to surrender the undoubted benefits he has won by combination in its proper and legitimate sense, and return to long hours and no resting time? Certainly not. In former times of prosperity, capital was able to, and did, make many concessions with justice and advantage to all, but in times of depression like the past, the workman should not hesitate to do the utmost in his power to the general restoration of trade. He would then possess an undoubted right to participate in better times. The Saturday half-holiday, when properly employed, is a great boon to the working-man; but how is it spent by the mass. How many thousands make Sunday and Monday drinking days; come on Tuesday to their work prostrate in mind and body by drink?

The profits of capital are down to so low a point, that it is impossible they can go lower. A very small margin holds the market; a market lost, capital must seek other employment. Labour suffers, is destroyed. New trades arise, but old ones never, or rarely, come back. Lack of industrial

spirit, self-indulgence and improvidence, and the foolish belief that labour gains when capital loses is killing our old industries. Nothing helps the foreigner so much as strikes. Strikes spread mischief far and near ; their pernicious influence is felt far beyond, and on all sides of their immediate centre. To save the great industries and interests of this country from utter destruction capital and labour must go hand in hand. These wretched contests must cease, and cease at once. The two must pull cordially together, taking and giving as times and opportunities offer, if not, there is little or no hope for the future.

The epitaph on the tombstone of England's command of the world's trade, will be,

“ Lost for an extra hour of idleness,  
And a pot of beer per day.”

There are some points that I have no space in this paper to touch upon. They are the first, fourth and fifth of Mr. Hill's causes of the late depression. The causes, as far as the present investigation has gone, are then as follows :—

Over-speculation, investments in undertakings doubtful and more than doubtful, money sunk in loans to bankrupt States, extravagant living in all classes, deterioration in our manufactures, trades' unions, short time and long wages, and drunkenness.

There is nothing in this dark catalogue of causes that is beyond our power to remedy. They have grown up from small beginnings until they now have attained gigantic proportions, and threaten this country with ultimate ruin.

Already there are signs of returning prosperity. From various parts of England, there are reports of reviving trade. The iron and steel industries are showing special improvement ; iron ore is largely in demand ; stocks are being rapidly reduced ; additional furnaces have lately been put in blast. The demands from the Continent are increasing for iron manufactures. Large orders have been received from



America for steel rails; freights between this country and America are once more remunerative. There is every indication that trade is reviving; but, before the masters have recovered from the bad times, strikes are again at work for an increase of wages. Cannot the masters get time to recover themselves before the long looked for revival is destroyed by so raising the price of the articles produced as to enable the foreigner to compete successfully with us. Wages, at the present time, are low to what they have been in all mining and manufacturing districts. From the revival in trade, it is evident that the masters, under these circumstances can compete successfully with the foreigner, and can make a fair profit; but it follows that if the operatives commence an agitation for an advance (if they get one, will that satisfy them?) and succeed, which they must do, until the existing contracts are concluded, that the revival will only be temporary, and end in a more permanent depression, and throw the manufacturing trade of this country more completely than ever into the hands of the foreigner. The masters should have time given them to recover from the depression of the last three years. Then the operative would be fairly entitled to a corresponding rise in wages; and the public will be with them in the justice of their demands, but not to crush out the present revival in its infancy.

It appears that the fairest way to arrange the rate of wages would be upon a sliding scale, based upon the market price of the article produced, rising and falling with the demand. This is now, in some instances, adopted. Should it at some future period become general, we may then conclude we have seen the last of strikes.

During the past few months there has been considerable activity in all branches of trade; in London, among the mercantile community this has been most remarkable, and especially in the tea trade, which has been so long unre-

munerative ; fortunes have been made, and the prices very much advanced. A well-known firm in Mincing Lane is said to have made two hundred thousand pounds sterling in the month of October last ; large amounts have been realized by others in the same business. In many cases they have made money faster than they ever made it before. This activity first commenced with cheese, and subsequently extended to tea and indigo. The price of tea having risen considerably, much profitable speculation was done ; the only reason that can be given for this movement is that the crop in China is short. It is quite true the imports of tea this year have decreased, and that the consumption has increased, but with the enormous stocks on hand and in bond, there is nothing to justify any anticipation of scarcity. This can hardly be considered as an outcome of a perfectly legitimate trade, for there is no reason to be found for this sudden activity and consequent rise in prices ; in other branches of trade similar, but more legitimately, much activity remains and continues, it is to be hoped will leave a lasting revival of trade all over the country. When Lord Beaconsfield stated, as a proof of returning prosperity, “ that the demand for chemicals was rapidly increasing,” and that the demand was a proof that the depression was passing away, he stated a fact that can only be denied by the wilfully ignorant. Chemistry in its widest sense enters into every branch of trade ; without chemistry in the present day we should be nowhere ; consequently it was in that direction that the first legitimate advance was to be expected ; but no advance can be permanent unless the causes that produced the late depression are swept away. If these are to remain, the present activity in all branches of trade will soon disappear, and the depression return with increasing strength. One of the most disheartening signs of the times is the oft-repeated expression—you may hear it in the City of London every day—that, “ An honest man cannot succeed in business.” I do not

believe that this is the case. An honest man will as yet succeed in any line; but it shows what he will have to contend with, and to what an awful gulf we are tending. No one expects to find all men honest, but surely we have the right to expect the majority shall be so. Those who make this assertion believe in it, and act as if it was true, can hardly fully understand what it means, and into what an abyss of wickedness it leads. It means that all our fellow men engaged in business or trade are men without honour, principle, or morality. I should imagine there are few men who could calmly view such a state of things, and look upon it without horror, like all other sweeping assertions; this assertion is not in its fullest sense true. Pity it is true in any sense. There is very much in the manner of doing business, whether in commerce or manufacturing, that is decidedly reckless, if not positively dishonest. But there are many men engaged in all branches of trade who would scorn to do a mean or dirty action; there are a few among us whose word is their bond, and do not require to be tied down by legal process to perform it; men whose every action of life is based upon a morality which means the highest standard of duty to God and towards their fellow man; men who are ever striving for advancement in themselves, and leading all in connection with them, or who come within their sphere of action, to follow after everything that is noble and virtuous, and to shun everything mean and base. When such men as these disappear from our commercial circles, then, and not until then, will this assertion be true. When an honest man cannot be found in business in England, then, indeed, will England's glory be departed, without hope of return. May that time be very far off.

HENRY FAITHFULL.

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## INVESTIGATION INTO SHIPPING CASUALTIES.

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### ADDITIONAL RULES as to Investigation into Shipping Casualties.

The Merchant Shipping Act, 1876, 39 and 40 Vic., cap. 80.

The Shipping Casualties Investigations Act, 1879, 42 and 43 Vic., cap. 72.

39 and 40 Vic., c. 80, s. 30.

**W**HEREAS, by Section 30 of the Merchant Shipping Act, 1876, it was provided as follows:—"The Wreck Commissioner, Justices or other authority holding a formal investigation into a Shipping Casualty shall hold the same with the assistance of an Assessor or Assessors of nautical engineering or other special skill or knowledge, to be appointed by the Commissioner, Justices or authority out of a list of persons for the time being approved for the purpose by a Secretary of State." The Commissioner, Justices or authority, when of opinion that the investigation is likely to involve the cancellation or suspension of the certificate of a Master or Mate, shall, where practicable, appoint a person having experience in the Merchant Service to be one of the Assessors.

42 and 43 Vic., c. 72, s. 3 (1).

And whereas by Section 3, Sub-Section 1, of the Shipping Casualties Investigations Act, 1879, it was thus enacted:—

3. (1.) The list of persons approved as Assessors for the purpose of formal investigations into Shipping Casualties shall be in force for three years only, but persons entered in any such list may be approved for any subsequent list. The list of those persons in force, at the passing of this Act, shall continue in force until the end of the year 1880, but nothing in this Section shall affect the power of the Secretary of State to withdraw his approval of any name on any such list or to approve of any additional name.

And whereas the Secretary of State has directed that the Assessors shall, so far as in his opinion circumstances permit, be taken in order of rotation within each class or sub-class, and has further directed that the Assessors placed by him on the list of Assessors, on and after March 31 next, shall be classified according to their qualifications, as follows :—

### QUALIFICATIONS.

#### CLASSES.

CLASS I. — MERCANTILE MARINE MASTERS. — (*a.*) Five years' service as a Master in the Merchant Service, of which two years must have been service in command of a sailing ship, with a certificate of competency. (*b.*) Five years' service as a Master in the Merchant Service, of which two years must have been service in command of a steamship, with a certificate of competency.

CLASS II. — MERCANTILE MARINE ENGINEERS. — Five years' service as an Engineer in the Merchant Service, with a first-class certificate of competency.

CLASS III. — ROYAL NAVY. — Rank of Admiral or Captain and three years' service in command of one of Her Majesty's ships at sea, or rank of Staff Commander and three years' service in that rank in one of Her Majesty's ships at sea.

CLASS IV. — PERSONS OF NAUTICAL ENGINEERING OR OTHER SPECIAL SKILL OR KNOWLEDGE. — (*a.*) Such qualification as in the opinion of the Secretary of State requisite for ordinary cases. (*b.*) Such qualifications as in the opinion of the Secretary of State requisite for special cases.

42 and 43 Vic., c. 72, Sec. 3 (2, 3.)

And whereas it was further provided by Section 3, Subsection 2 and 3 of the same Act, as follows :—(2.) The Assessor or Assessors for each such investigation shall, instead of being appointed by the Commissioner, Justices, or other authority holding the investigation, be appointed in such manner and according to such regulations as may be from

time to time prescribed by general rules made under Section 30 of the Merchant Shipping Act, 1876.

30 and 40 Vic., c. 80.

(3.) Where any such investigation involves, or appears likely to involve, any question as to the cancelling or suspension of the certificate of a Master, Mate, or Engineer, it shall be held with the assistance of not less than two Assessors having experience in the Merchant Service.

Now under the authority of the above-mentioned Acts, I the Right Hon. Hugh M'Calmont, Earl Cairns, Lord High Chancellor of Great Britain, hereby make the following General Rules:—

#### SHORT TITLE.

1. These Rules may be cited as “The Shipping Casualties Rules, 1879.”

#### COMMENCEMENT.

2. These Rules shall, subject as hereinafter mentioned, come into operation on the 24th day of December, 1879.

#### PUBLICATION OF RULES.

3. These Rules shall be published by Her Majesty's Stationery Office, through its agents, and a copy shall be kept at every Custom House and Mercantile Marine Office in the United Kingdom, and any person desiring to peruse them there shall be entitled to do so.

#### APPOINTMENT OF ASSESSORS.

4. The power of appointing Assessors for investigations into Shipping Casualties shall be vested in the Secretary of State.

5. If any investigation involves, or appears likely to involve, the cancelling or suspension of the certificate of a Master, Mate, or Engineer, then, in order to satisfy the aforesaid statutory acquirement of not less than two Assessors having experience in the Merchant Service, there shall be appointed from the list not less than two Assessors from Class I. and Class II., or from either of those classes.



6. Subject to any special appointment or appointments which the Secretary of State may think it expedient to make in any case where special circumstances appear to him to require a departure from these Rules (the requirements of Rule 5 being always complied with), Assessors shall be appointed as follows —(1.) Where the investigation involves, or appears likely to involve, the cancelling or suspension of the certificate of a Master or Mate, but not of an Engineer, at least two Assessors shall be appointed from Class I. (2.) Where the investigation involves, or appears likely to involve, the cancelling or suspension of the certificate of a Master or Mate of a sailing ship one at least of the Assessors shall be appointed from sub-section (a.) of Class I., and where the investigation involves, or appears likely to involve, the cancelling or suspension of the certificate of a Master or Mate of a steamship, one at least of the Assessors shall be appointed from sub-section (b.) of Class I. (3.) Where the investigation involves, or appears likely to involve, the cancelling or suspension of the certificate of an Engineer, one at least of the Assessors shall be appointed from Class II.

7. The Board of Trade shall inform the Secretary of State when Assessors are required, and shall state from which of the aforesaid classes Assessors ought, in their opinion, to be appointed, in order to give due effect to the aforesaid classification and these Rules: but the Board of Trade shall not request the appointment of any individual Assessor.

8. An appointment made by the Secretary of State of any Assessor or Assessors for an investigation shall not be open to question on the ground that it was not in accordance with these Rules, or does not give full effect to the requirements of these Rules.

9. Whereas it is necessary to make temporary provision for the appointment of Assessors until the classification referred to in these Rules can be effected. Therefore, Rules 5 to 7 (both inclusive) shall not come into operation until the 31st

of March, 1880, and until those Rules come into operation the statutory requirements as to the appointment in certain cases of two Assessors having experience in the Merchant Service shall be deemed to be complied with by the appointment of persons who, in the existing list, appear as qualified by service in the Mercantile Navy.

Dated this 20th day of December, 1879.

CAIRNS, C.

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## STEAM GENERATION.

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[WE extract the following from the columns of the *Marine Engineer*, feeling assured that it will interest many of our readers.—ED. B. M. S. J.]

THE generation of steam with coal as fuel is attended with disadvantages which have long been obvious enough ; science has endeavoured to cope with the difficulties, but with little practical results hitherto. In a patent, taken out by Mr. Robert Walker, C.E., F.R.G.S. we appear to have arrived at the *ne plus ultra* of perfection in the production of steam, especially for steamships, as the steam is generated with great rapidity and economy, and without smoke, sparks, or dirt, while the fires can be lighted up or extinguished instantaneously. Mr. Walker's Patent Hydro-Carbon Furnace and Apparatus covers an arrangement by which common air is rapidly converted into hydro-carbon gas of great heating power, which is stored in a receiver, subjected to pressure, and thereby forced out through a pipe to the burners from which combustion takes place (underneath, but between the fire bars) in the furnace. Upon these bars is fixed a layer of incombustible lumps of minerals made up as a coal fire would be, but having this great difference, viz., that, being indestructible by fire, it remains intact. When the hydro-carbon gas is lighted the

flames rise in vivid combustion through the firing, and the furnace soon gets heated, and the air within becomes hot and rarefied. Then a series of tuyeres are started and inject with air or steam, or both, crude hydro-carbon in the form of fine spray into the already hot furnace. The force of the air-blast rises the hydro-carbon spray some distance into the furnace, and discharges it, finely pulverised and mixed up with air, as impregnated hydro-carbon vapour, over the red-hot firing and blazing gas, and complete and effective combustion is insured, and the flame passes along the flues as in the case of an ordinary fire, but without producing either smoke or sparks. Additional air may be admitted with the hydro-carbon spray if required, through the air apertures (in the tuyeres), which may be opened or closed by a sliding outside collar, and which is adjustable by a lever arm. The principle is thus of extreme simplicity, and the practical arrangements are equally so, ensuring a certainty of operation in the practical working of the invention, and the apparatus can be added to the existing furnaces of steamships, without any alteration of the engines or boilers.

The combination of burning hydro-carbon gas with heavy oils, which forms the principal fuel that Mr. Walker proposes to use, would also be thus readily put under the control of the captain or other responsible officer. A valuable point to be noticed in such a Hydro-Carbon Furnace is the command which can be in the hands of a single individual, to at once extinguish, or light up, or diminish, or increase the fire. There is also great cleanliness about such a system. No smoke, we suppose, and no cinder or ash to get rid of, and little or no soot.

If we analyse the effect produced by this mode of combustion, we shall find that the heavy oils, projected in the form of minute globules into the already hot furnace, present a great surface to the oxydising effect of the air which surrounds them, and which has been their vehicle ; therefore



they get inflamed instantaneously throughout the mass. The residue of this combustion which takes place in this finely divided state being so minute ( $\frac{5}{1000}$  part of each original globule), they are consequently totally carried away by the draught, at the same time the globules or fine spray, being on all sides enveloped in air, perfect combustion is attained, and consequently no smoke. The comparison of the profit from the saving in storage and economy in the results gained will best be made from the following data, viz.:—Say one ton of coals measures 48 cubic feet, then one ton of hydro-carbon only measures 17.50 cubic feet, the saving in storage is therefore 30.50 cubic feet per ton in favour of the hydro-carbon fuel, and if we take the calorific power of coal per pound as estimated at 8,000 caloric units, then that of liquid hydro-carbon per pound must be taken at 18,000, which gives an advantage weight for weight of  $62\frac{1}{2}$  per cent. in heating power to liquid hydro-carbon as compared with coal; but then, in the combustion of coal, as carried out in the construction of our boilers and fire-grates, only a very small proportion of the heat theoretically developed can be made use of, whereas by Mr. Walker's patent, by burning hydro-carbon gas and crude or heavy lubricating oils in a gaseous form, as we have before mentioned, the comparison of useful caloric effect obtained from coal and hydro-carbon has been made, viz., that in the pound of coal only 50 per cent. caloric effect is utilised, or 4,000 caloric units (which is probably much over rather than under the mark), and in the use of the hydro-carbon 100 per cent. (as nearly as possible), or 18,000 caloric units, is claimed to be utilised. The comparison, then, that one pound of liquid hydro-carbon is equal in evaporating power to 4.50 pounds of coal seems fully justified. These advantages in favour of hydro-carbon fuel, as burned by Mr. Walker's patent, are immense, and must eventually effect a complete revolution in our present mode of steam generation. For steamships making long sea

voyages the use of this species of fuel would be most important, as it makes voyages to China and Australia from England and from American ports on the Pacific coast quite easy of accomplishment, instead of being, as is the case at present, almost impossible, owing to the excessive quantity of coal which they require, and the excessive price which, in those distant seas, they are obliged to pay for it.

For use in the Navy it would be equally important. In time of war our largest ironclads, as now constructed, would never be able to cross the ocean without being surrounded by a fleet of colliers to supply them with coal. The *Devastation*, although built as a sea-going monitor, intended to cross the Atlantic in time of war, can only store coal on board for a cruise at full speed of from twelve to fourteen days. She might store sufficient hydro-carbon fuel, with Mr. Walker's patent, to steam from sixty to seventy days at full speed.

A further very large field for the successful use of this hydro-carbon fuel will be in metallurgical operations, such as the reduction of metals, and particularly in the case of iron smelting. The chemical purity of the gases of combustion, and the enormous degree of heat which can rapidly be attained, estimated at 5,000 degrees, and the absence of all deleterious matter, such as sulphur and phosphorus, must prove most valuable in producing the purest and most perfect qualities of iron and steel, &c. We understand Mr. Walker is at present arranging terms for the royalties for the working of his patent, and we expect soon to report further progress of this most valuable invention, from the result gained by those ocean-going steamers by which the patent may first be worked.

The following appeared in the *Times* and fully confirms the opinion expressed of the vast importance of this invention to steamship owners and passengers.

“PETROLEUM AS FUEL.—A method of using petroleum as fuel for steam boilers has been recently tried at Pittsburg

(U.S.) with, it is said, complete success. The steamer *Billy Collins* was selected for the test, and was fired up at 9 a.m. A preliminary blaze of wood under the boiler raised a small quantity of steam necessary to start the burner into operation. The needle of the steam-gauge climbed rapidly up the dial, and in twenty minutes the safety-valve blew off at 120 lb. pressure. It was a remarkable sight. Here was a boat puffing through the water with no sign of smoke from her chimney, no speck of soot in flue or fire-box, no fireman, no opening of furnace doors, no dirt, no coal going in, no clinkers or ashes to be seen anywhere. A turn of the hand regulated the terrible flame that seemed to be trying to overpower the limits of the furnace, and another turn of the hand brought the fire down to a quiet little flame, a foot or two long. . . . The labour and expense of 'firing up' are dispensed with, and the engineer can regulate the flame as he does the steam in his engines. The danger from sparks and flying cinders is entirely done away with. . . . Farther, the wear and tear upon boiler, grate, bars, &c., is infinitely less, and it seems scarcely necessary to add, the comfort of passengers is greatly enhanced by the absolute freedom from dirt of all kinds. To ocean-going steamers this device must prove of extraordinary interest."

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## CORRESPONDENCE.

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### LAY WORK IN THE MERCHANT SERVICE.

*To the Editor of the "British Merchant Service Journal."*

SIR,—Allow me to thank Captain Woolcott, of the P. & O. Co.'s s.s. *Pekin*, for his kindly notice of Mr. Thomas Brassey, M.P.'s offer, through the Missions to Seamen Society, of a prize of £25 for the best Manual of Suggestions to officers of the Mercantile Marine willing to take an active personal interest in the spiritual welfare of their shipmates. The



Essay is to explain the arrangements applicable for promoting spiritual, moral, and educational interests on board ships, such as would be suitable for officers engaging in those duties on board various classes of vessels employed in different trades, whether at sea or in harbour.

I can assure Captain Woolcott that the more active promoters of this Essay on Lay Work in the Merchant Navy are not insensible to the physical needs of the merchant seamen, nor are they insensible to the secular requirements of the officers. To few unofficial persons are we seamen more indebted than to Mr. Thomas Brassey, for the fearless way in which he has sought to advance our interests. One of the adjudicators, Captain Henry Toynbee, F.R.A.S., published, some fifteen years ago, his "Sailors' Wants, and How to Meet Them," and in many lectures and papers since he has dealt with those very points on which Captain Woolcott very forcibly dwells. Though I cannot myself speak with the authority or the knowledge of either Captains Toynbee or Woolcott, yet I have written and spoken a good deal on the physical needs of merchant seamen and officers during the last 12 years, as Captain Woolcott will find, if he will refer to *Frazer's Magazine*, Vols. 75, 79, 80, and New Series, Vol. 12; *Calburn's Magazine*, Nos. 461 and 487; the *Argosy*, Nos. 3 and 4; several papers in the Social Science Association's journal, and other writings, speeches, and evidence, in which most of Captain Woolcott's points have been ventilated.

Nevertheless, I would venture to remind Captain Woolcott that the Saviour of mankind, his Apostles, nor their immediate successors did not wait for legislation, or for the superior secular powers, or for school boards, when they sought to promote the spiritual welfare of the human race, on the contrary, Christian legislation and Christian governors followed, rather than preceded, the spread of the Gospel. And in the Royal Navy, within living memory, great moral and physical

improvements have followed upon improved spiritual culture. I hope, therefore, that none of the captains or officers of the Mercantile Marine will wait for legislation, or for the Board of Trade, or even for their employés before striving to do their several duties, to the best of their powers and means towards the souls embarked under their command.

By all means promote legislative and other improvements, which are sadly needed, but let us also use such influences and powers as we individually possess, to make the several crews of the British Mercantile Marine an honor to our country, to our faith, and to our God.

I am, dear Sir, yours faithfully,

WM. DAWSON, Commander R.N.

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*To the Editor of the "British Merchant Service Journal."*

SIR,—H.M.S. *Birkenhead*, the mail steamer *Celt*, troop steamer *Clyde*, have all been lost after taking departure from Cape Hanglip, bound to the eastward. Is it not just possible that Hanglip and Danger Point, like many high capes in southern latitudes, might be placed somewhat further north or south of their true latitudes, and that the s.s. *Natal*, as mentioned in the *Nautical Magazine* of last month, found herself embayed, not by an indraught, but by Hanglip being placed too far south on the chart?

The writer is in a position to state that Moonlight Head, west of Cape Otway, south coast of Australia, is considerably out in latitude, and was nearly running on the Lawrence Islands, near Portland Bay, after having taken a departure by cross bearings off Moonlight Head, when running to the westward.

Query. May not this have been the cause of the loss of the *Loch Ard*, where the only survivors were a midshipman and a lady passenger?

The reef off Abdul Korra, near Cape Guardafui, where the

s.s. *Hong Kong* was lost, wants a re-survey very badly, as, from experience, cross bearings, supposed so infallible by theorists on shore, will lead a ship to destruction in that neighbourhood.

Lying in a well sheltered roadstead, six miles out in latitude by Admiralty charts, has made me cautious.

Yours, &c.,

“SHAKINGS.”

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## NOTICE TO SHIPOWNERS AND MASTERS.

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### YELLOW FEVER AT RIO.

THE Board of Trade have received from Her Majesty's Consul at Rio de Janeiro, a Report upon the subject of the epidemic of Yellow Fever at that port in the year 1878.

The epidemic, which commenced in December, 1877, increased in intensity up to February, 1878, and did not abate until the end of the following month. It thus appears that the months of January, February, and March are those which are most unhealthy at the Port.

It further appears from the Returns which accompany the Report, that the death rate from Yellow Fever is much higher in the case of those persons who were not submitted to medical treatment upon the first manifestation of the symptoms.

The Board of Trade desire, therefore, to impress upon Masters the urgent necessity for at once sending to the Hospital any Seamen showing symptoms of Yellow Fever, instead of waiting until the disease has gained ground, and by its progress has rendered ineffectual any remedies which may then be applied.

THOMAS GRAY,

*By Order of the Board of Trade,  
December, 1879.*

*Assistant Secretary,  
Marine Department.*



T H E  
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WHY DO CARGO STEAMERS FOUNDER ?

*(Read before the Members of the Shipmasters' Society, January 29.)*

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MR. CHAIRMAN and GENTLEMEN,—During several months past our members' meetings have been mainly devoted to the discussion of professional grievances, and the injustice inflicted by the law upon our unfortunate brethren, and to which all in active service were liable.

Thanks to a favourable change in public opinion, and in a very material degree to the action of this, and the kindred societies, the Legislature has listened to our complaints—the position of matters is much improved, and we have time to think of other important topics. The one I am about to submit for your consideration and debate this afternoon is prominently before us this season, and it has been many winters before.

A number of steamers are missing, and have been abandoned ; lately much property and many valuable lives have been lost, and the catalogue lengthens almost daily.

As the interchange of opinion and experiences by practical men may do much good, I ask your patience whilst placing before you, shortly as possible, what, according to my ideas, are frequently the causes of the disasters we lament—why steamers founder ?

It is noticeable that most of the missing ones are cargo vessels, and generally grain, seed, or coal laden.

Structural *weakness* of hull due to faulty workmanship, or age, is sometimes the reason, but not often.

*Shallow combings* to stoke-holes and funnel-casings, glazed engine-room skylights, weak booby-hatches, and bulkheads about the deck, occasionally lead up to disaster. A heavy sea, or a succession of them, breaking over decks with such fittings, may easily make short work of a deeply-laden vessel, and especially when high bulwarks keep the water from clearing off.

*Pipes* in connection with engines and boilers may give way, engines become disabled altogether, steamers fill and sink, and if weather happens to be bad, the crew are lost in their attempts to get away in the boats.

*Well-decks*.—In high seas, a vessel of ordinary length, with 30 to 50 feet of well between long poop and forecastle and 4 to 6 feet bulwarks, is liable to ship sufficient water to break in hatches and turn the scale of reserve stability, and capsize.

*Collisions*, resulting in total loss of both vessels, are extremely rare, and but few cases occur through striking wreck or iceberg. Shifting of grain, coal, seed, or other cargo in bulk, or otherwise, is often the reason ; but, in my opinion, it is rarely the primary one.

*Bad, careless stowage*, especially where the grain elevation is used, makes shifting an easy operation, and contributes largely to the causes of loss at sea.

*Double-bottoms* are, I think, by far the most frequent and first cause of foundering. Speaking from hearsay and somewhat superficial observation, I believe the inner bottoms of these vessels are from 18 to 36 inches, or more, above top of the floors, and extend from half to whole length. Any steamer of the ordinary proportions of depth to beam, and fitted with such a double-bottom, has its centre of gravity lifted to a position of positive danger, and the margin of

reserve stability reduced to a very narrow limit, if laden with grain, seed, coal, or other filling cargo of equal density throughout; always excepting when the water ballast is in use; to put an extreme view of the case, these vessels are loaded on their 'tween-decks. Given these conditions, a shifting cargo, possibly bad stowage, and a crank steamer—in my belief all double-bottom ones of to-day are so—what is likely to happen when lurching in a quarterly, or beam sea, especially if the latter is a heavy one? Suppose the steamer, disabled by any derangement of machinery—a heated bearing, slackened nut, or broken valve—she becomes unmanageable, lies in the trough of the sea—each lee lurch is heavier than the preceding—and in a short time all hope is gone; the steep slope of an advancing wave, and the blow of a striking sea settles the matter. H.M.S. *Captain*, with engines stopped and under sail, was in a beam sea, lurching heavily, when her top weight of armour overturned her; pressure on her sails had but little to do with the misfortune, these were becalmed some time before capsizing point was reached.

Another cause of highly-placed cargo, and consequent high centre of gravity and danger, is the unnecessarily large engine and boiler space—all below main-deck—and made so large, to secure the 32 per cent. allowance in measurement. It often happens that the dead weight of coal fills all the available cargo space in double-bottom steamers.

Many steamers, of the type we have been discussing, frequently *leave port* with a *list* when laden with light cargo, and there is nothing specially dangerous in the doing so, provided weather is fine during passage, and all keeps well in engine-room; but considerable risk is incurred if a little more water than usual collects in her bilges, and also from uncovered tubes in the boilers.

Deep overloading in itself rarely occasions loss; double-bottom, ore-carrying steamers have comparative immunity



from loss, and they load the deepest ; the lifting of cargo is advantageous in such cases. A steamer properly proportioned and laden cannot be capsized, and is difficult to list.

If all double-bottom vessels are crank under the conditions named, then, what is a most important phase of this subject presents itself. I hold it is practically impossible to keep them upright ; and it follows, that you who have their charge, are liable to be held responsible, and punished for what you cannot prevent.

Really, the designers and the builders are to blame. It is doubtless in the province of the scientific branch of the shipping department of the Board of Trade, and Lloyd's Register of Shipping, or other recognised authorities, to ascertain by calculation and experiment the actual status of stability in these vessels, and what are safe proportions of beam to depth, with or without double-bottoms, and cargoes of the kinds we have been considering.

I think we, as a body, may reasonably ask for the tests to be made, and if the ideas propounded have foundation, I hold these authorities should declare such steamers unsafe, and give public warning to owners, masters, and all concerned. Moreover, if the meeting is with me, I will propose that this Society set about asking at once.

The case of the *Heimdall*, lately before the Court for enquiry, showed she listed first one way then the other on her passage, and eventually she went over, past recovery ; no exceptionally bad weather. The *Roscommon*, also a recent case, seems to have listed to one side, and kept there to the end. This vessel was coal laden.

I never saw a coal cargo shift materially, and I don't think it liable to do so, when ordinary care has been taken in trimming, except under very *extraordinary* circumstances. By the way, very few sailing ships capsize from shifted cargoes, although the stress on their stability is comparatively heavy.

And now, gentlemen, asking for your experiences and opinions, I will briefly sum up my views and conclude.

Empty double-bottoms, insufficient beam, with filling cargoes, of equal density, high centres of gravity, crankness, and the consequent extra liability to shift cargo, being conditions generally found together in the missing vessels, there is no doubt in my mind they are by far the most frequent cause of steamers foundering. I believe any well-proportioned steamer, laden in the ordinary way, with a well-trimmed cargo, is reasonably safe; and in my opinion a considerable increase of the present proportions of beam is necessary to make the double-bottom vessels fit for employment in the coal and grain trades.

I may add to this, that I believe in very many instances (I cannot speak from my own knowledge) that the calamities which I have been considering are almost always, if not always, brought about by the owner's greed, and the desire of the owners, to say the least, not to incur too heavy expense. I think it is very unfair that captains of ships should have to suffer from such a cause, but practically they are compelled to do so, or to lose the means of living. For my own part, I think the sailor is of very little worth who is not ready to incur a little risk. If he is at sea and his ship begins to leak, he is not worth much if he does not attempt to stop the leak instead of coming back; but I think it is very unfair to require him to start from port with such a risk staring him in the face as we know exists in very many cases.

A. G. FROUD.

Captain H. B. BENSON (in the chair): You have heard Captain Froud's remarks, and I do not think we have ever had before us any subject that requires greater care in the handling, and greater determination to bring to some practical issue, because it not only deals with questions of

pounds, shillings, and pence, in the shape of property belonging to people who have not the management of it, but it also deals with the lives of men whom we are called upon to protect. It is our bounden duty to protect them as being of our own cloth, and I would ask you now to discuss this paper in a calm and temperate manner. My opinion is that the subject is of such importance that, if we cannot finish the discussion to-day, this meeting should be adjourned, because sooner or later it must come before the public as it is coming before them now, and the Legislature will no doubt have to take it up; and, seeing the importance that this Society is gaining and the good reputation which it is earning for its unselfishness and devotion, we ought not to allow this paper to be lightly dealt with. Therefore, gentlemen, I invite discussion, and we shall be glad to hear you state calmly and temperately what your views are.

Captain SAUNDERS: Mr. Chairman and Gentlemen, with your permission I will say a few practical words. I will liken the question to this. Supposing a ship with the water-ballast arrangement, such as we have, were to be loaded in the ordinary way, and we then sank on either side the air-tight bags, keeping them down by weights, and that we then pumped air into those air-tight bags at the bilges of the ship, what would come about? Why, the ship would turn over. And I say that this system that is being carried out of having water-ballast compartments, is to me the most extraordinary thing that has come into operation in modern days—as far as safety is concerned. It may be very convenient, but to my mind it is the most unsafe arrangement that ever could have been devised. Of course there are those in authority and in office, men whom we all respect, Lloyd's Committee and others, who have passed this new invention, and therefore I do not say this in any way to blame them. The owners wanted it thinking it would be a great convenience, and it was consented to without due consideration, but I should



think it has been going on quite long enough for them now to have changed their minds.

Captain MILBANK: I have listened to Captain Froud's paper, with which I entirely agree, and I endorse the views expressed. I think the reasons of the sinking of these ships are therein set forth. There is no doubt the present system of shipbuilding, for the last few years, has been carrying out principles which are utterly wrong as regards the properties of floating bodies. About a year ago I was asked to construct a ship for a very well-known firm in London, and they were disposed to make her pretty nearly as deep as she was broad. I said, "Gentlemen, I will have nothing to do with such a vessel. If you will go up to the West-end of London and see what Mr. Froude has shown us in his experiments on the properties of floating bodies, you will see the true principle." They eventually told me to make her with any beam I pleased, and I constructed a vessel 240 feet long by 34 feet beam, and 20 feet deep. That ship has now been running to America, and she goes just as fast as if she had been made five feet deeper, which they wanted to make her, and the result is a good ship, whether loaded with grain, or coal, or anything else. I think Captain Froud made an allusion to these iron ore ships very seldom coming to grief. The steamers engaged in the trade to Bilbao, are of the worst possible proportions, but fortunately their safety is entirely due to the fact that they cannot be filled. The stuff is so heavy that not only is their centre of gravity kept right, but their meta-centre is kept right likewise. Those ships are grossly overladen, as I think. I was despatched to Bilbao a short time ago to make observations on the loading of these ships for underwriters because, although there have been two or three ships lost from Bilbao, there seems to be no doubt that it has been the disturbance in almost every instance of the iron ore which has caused the disaster. Captain Froud is quite right in my opinion that the

vessels he alluded to capsized entirely from their bad proportions. There is one practical fact connected with these ships that as many as five of the large Insurance Offices in London now decline to take the risk on a double-bottomed vessel. They ask, "Has your ship got a double-bottom?" and when you say "Yes," they decline the risk. Formerly they jumped at it, and wrote vessels with double-bottoms one per cent. cheaper. They would say, "Oh, yes, if your vessel has a double-bottom you must have greater safety," and if one went away to salve a ship they would say, "Oh, you will be sure to save her; she has a double-bottom." I myself do not like to tackle a double-bottomed ship. I would rather go at a single-bottomed ship. I quite agree with Captain Froud that some steps should be taken with regard to the proportions of vessels, and yet I do not quite see how we are to do it. This is a country which upholds free trade in everything, even in human life, and how we are to move the authorities at Red Lion Court, with their formidable book before them, I cannot see. It is a very difficult thing to deal with the commerce of a country in respect of the load-line and such matters, and I doubt whether you can interfere with it at all, but I do think it will come about in its own reasonable way. The very fact of a man building a ship of these proportions, and not being able to get it insured, perhaps will work out its own end. In the meantime no doubt it is exceedingly serious that a brother shipmaster should be sent to sea in a vessel constructed as some are constructed now. I was sent to Alexandria some time ago to make observations on the loading of grain ships there, such as cotton seed; I was surprised at the pressure brought to bear on the masters of those ships with regard to the expense which should be incurred to make an efficient shifting board in the centre. I endorse the remarks of Captain Froud as to the difficulty a captain has in making his ship seaworthy according to his own notions. I went so far in Alexandria as



to make a protest before the British Consul with regard to ships which were insured in offices in which I was interested, which were going to sea in such manner, and the consequence was the boards had to be taken out. I do not say that the vessels I refer to would have come to grief, if those things had not been altered, but they were exceedingly likely to do so, with beams exceedingly attenuated, and with depths enormous. Captain Froud also alluded to the large open spaces in the engine-room. Of course there is a temptation to owners to get the gross tonnage reduced by accepting this 32 or 33 per cent. off. There is no doubt some truth in Captain Froud's remarks, but I think that the weight of those engines and boilers if properly placed would be equal to the weight of cargo you could place in the like space, although I must make the exception in ships which are very deep; and here comes in a view of serious trouble with the iron steamer, and that is, that when the engines are placed low down so that they would be well below what is called the ordinary 'tween-deck, owners begin to avail themselves of the upper space included between the cylinder of the engine, and the sides of the ship, and the sides of the boiler, and upper stringers, and proceed to make a bunker there for the coal, and this being a pocket bunker, it is the last used in a voyage across the Atlantic, the vessel has a weight above the water-line which seriously affects her stability. Owners are not content with having a bunker there, but they will make bunkers even under the bridge on the deck. I saw at Halifax a ship with a cargo of peas, and I absolutely found 40 tons of coal on the upper deck of that ship, on what I should call the alleyway houses, for want of a better term. In that case they did go through the form of making that ship stable, but she never reached this country. There is no doubt she turned over. I must say I entirely agree with the remarks of Captain Froud, and no doubt there is room for improvement in the proportions of construction of iron



ships, and I would join in any action this Society might take with a view to carry out those improvements, but I feel the difficulty of interfering with people in their own business. It is the shipbuilder who is principally to blame. He wants to produce the largest money-earning article at the cheapest price. He wants to tempt an owner to do business with him, and he knows by studying well Lloyd's rules, and not only Lloyd's rules, but the Veritas, and by studying Table G, so well known among shipbuilders, that by making a narrow, deep, and long ship he can build at so many per cent. less than if he builds a good stable, solid vessel. I am not here to sit in judgment on the men who have framed these rules—who pass their whole lives as naval architects—but I say we must not blame the shipowner in this case. It is the shipbuilder who has a certain set of rules to work by, and he is very anxious to do business with the shipowner, and to supply vessels which can carry so much dead-weight with a certain draught of water. I have not much faith in official interference of any sort, and I do not quite see how we are to move the Circumlocution Office at the West-end, however desirable it may be to alter the present state of things.

Captain HECKFORD: As I understand, this meeting is to be adjourned for a further discussion of this subject. If that is so, I shall have in the meantime an opportunity of tabulating a statement which I shall be prepared to read before you, showing the amount of losses in steam-vessels during the last five years, and showing their structure and the cause of their loss. My record will show this year alone a loss of 82; but I cannot refer to the particulars now, because I cannot carry all my records in my head; but I will produce the particulars showing where they were built, the tonnage, the voyage, and the result.

The CHAIRMAN: I should like very much for a few gentlemen present to follow the very able and interesting remarks

of Captain Milbank, and I cannot help thinking that if we adjourn this meeting to a future occasion, a good deal of substantial statistical matter will be brought before us upon this very important subject, and a great number of facts revealed, which, probably, will remain unknown to us if we close the discussion this afternoon. As you, gentlemen, appear to be rather reticent in speaking, I will make a few remarks with regard to the subject of this paper. I feel very strongly upon it indeed. It is a question which touches not only pounds, shillings, and pence, but human life to a shameful degree. Captain Milbank has told you, very properly, that we cannot lay down in this free country any law by which ships shall be built; but when any great mistake has been made, the cure for the evil can only be obtained by the pressure of public opinion. I go one step further back than Captain Milbank; I go back beyond the builders for the cause of this evil. I say the cause of this is money-making or money-producing ships being built; it is the selfishness and the greed of owners. Let us see how it is. To those whom this remark touches, it may be an unpalatable remark, but so it is in my opinion; and those who have watched the production of British steamships cannot fail to have noted how that competition has forced itself first upon builders, and then upon owners. The question is, "Whose ship will carry the most at the lowest possible expense?" There is a limit to everything; and, in my humble judgment, the causes which make grain-cargo ships founder are very clear to those who take the trouble to search for the reasons. First of all, a man desires to make his ship carry something like double the quantity of that of his neighbour. What does he do? If you take one of their midship sections and look at it you will see. It is simply like a box, with the lower corners rounded off for bilges. He carries that midship section to a most enormous length forward and aft, and then he closes the ends of her as best he may to get the best

entrance and exit for the water, that the length of the vessel will allow him. Go down to the docks where these steamers are lying. There is one in the South and West India Dock now, although, of course, I cannot mention names. You never saw such a thing in your life. If she was rigged as a ship, you would find the mid-ship section somewhere about the foremast and mizen-mast, leaving very little for the entrance and exit. The builder says: "I will build her to a certain class at Lloyd's." "Yes," says the other high contracting party, "but do not put one single pound of scantling into her that you can keep out, because every pound you put into her will rob me of a pound of freight." Starting with such a condition of things as that, what sort of vessel are they likely to produce to carry heavy cargoes across the North Atlantic with a proper and due regard to the lives of those on board her, and the safety of the ship? Why, nothing but a coffin! Then, as to the double-bottoms, Captain Froud and Captain Milbank have dealt with that. That is a question of stability; but I go one step further back to find out the reasons and the causes that animate those gentlemen to produce such things; and there is no doubt they build vessels to carry two thousand tons which should never have been trusted with above half that weight in a voyage where it is likely the ship will meet with any bad weather. Take the case of the passage from England to New York all the year round, spring, fall, summer, and winter; and it is only those men who have navigated the North Atlantic in all months of the year who know what it is. They know the strain on the men who have to do the work, and they can easily feel for the vessel that has to carry the cargo. The Legislature will have to interfere in the end, and the reluctance of the Insurance companies to insure the vessels is a step in the right direction, which of course must tell its tale in assisting to put an end to the evils which now exist.



You will find if you trace back these matters to their causes that these losses have been increased greatly since the year 1871, when the steamship mania seems to have seized all portions of the coast of England. I think it is only by ferreting out these cases and getting them into print, and laying them before the public, so that they may be read throughout the length and breadth of the land that pressure will be brought to bear upon the subject, and ultimately put a stop to this shameful and disgraceful conduct on the part of a few *parvenus* who have only recently become shipowners under circumstances about as novel as they are mischievous. I hope, gentlemen, we shall not leave this subject alone until by associating all our ideas, whether at this meeting or at one adjourned one, or at two, we shall in some measure contribute to the object we have in view. You may depend the object is a praiseworthy and a righteous one; you may depend we shall have the assistance of the Government. The thing must be brought to pass gradually, but unless it is stopped, where is the end of it to be? Men are drowned like rats in a cage. The vessel is posted up at Lloyd's as totally lost. Who cares? Perhaps two or three merchants are interested, and two or three widows' and orphans' asylums are called upon, but these gentlemen who own the vessel receive their insurance, and probably get a very good commission for giving the order for rebuilding into the bargain. We sailors know our cloth cannot be satisfied, and we must do all in our power and leave no stone unturned to crush this system and create something better.

CAPTAIN BURROWS: If I remember rightly, most of these losses have occurred to ships loaded with grain from America. I was told yesterday by a captain of a steamer, who is in the habit of loading cargoes in those parts, that he attributes a great many of these losses to an invention which has sprung up of late years—the elevator, used in loading the ships. He tells me that the grain runs down these

elevators into the ship's holds—and if she has a 'tween-deck (some of them have an orlop deck), that it materially impedes the trimming of the cargo. While the wheat runs down the elevator it comes in such a condition into the hold that the dust rises in large quantities, and the men are choked. Perhaps the mate will jump down while the elevator is at work, and sing out, "Tom, shovel it well over into the wing," or "well up under the deck," and he jumps on deck again. He can stand it no longer; and he has gone down with something over his mouth, even for that short time. If the captain is a careful man, and knows it is impossible for the men to do their work while the elevator is at work, he says to the man in charge of the elevator, "You must stop until I trim the cargo." The man in charge of the elevator says, "If you do not let us go on, you must haul out and make room for another vessel." If he took the proper precaution he would haul out, but he says to himself, "If I haul out and let another vessel take my berth, I shall lose a day, and if I do that, I shall be turned out." Consequently, the ship is not filled, especially under the wing; and if she is steaming across the western ocean with a tremendous sea, and is pretty deep, the sea comes tumbling over on to his well deck, and he says, "I must heave her to." I was never in a steamer, but I was in a sailing ship, and I know that this heaving-to is a critical movement, and I should think it is even more critical in a steamer. Directly the helm is put down to heave her to we know she gets into the trough of the sea, and the sea strikes her on the weather side and gives her a list, the list being caused by the grain going up into the vacant space. The next sea which strikes her gives her a greater list, and the third sea a greater list still, and the chances are over she goes. If she is a double-bottomed vessel having the bottom vacant, as Captain Saunders has told us, it acts like an air bladder. The cargo is higher than it ought to be, there is

nothing in the bottom, and we as sailors cannot wonder if a ship with grain cargo under such circumstances disappears. If you load a ship with wheat with an elevator, and your men have not time, or opportunity, or power, to trim the cargo under the decks, all must see at once what a dangerous thing she must be, and I, for one, should not like to risk my precious life across the western ocean in a ship of that kind.

Captain LAURENCE: It seems to me Captain Burrows' remarks apply as well to the loading of coal as to that of grain. There is the same objection to the coal dust as to the grain dust, and the same remarks would apply to the shifting of cargoes of coal or grain.

Captain BURROWS: No, not as to shifting. The coal will not pile up like grain. In the North of England there are regular trimmers, who get their living by loading the coal, and they can stand the dust; it is their business, they do nothing else; they are brought up from boys to the business as coal trimmers, and they have large sheets of iron to lay down, and it is a very simple process which they have of trimming the coal. I say my friend's remarks do not hold good, because coals never shift. You never hear of a coal sailing ship going over, but you often hear of a grain-laden ship doing so.

Captain FROUD: Having regard to the question of double bottoms, I would ask you gentlemen just to look through the reports in the *Shipping Gazette* of the two inquiries in connection with the loss of the *Heimdall* and the *Roscommon* which bears very much on the subject we have been discussing. In reference to the *Heimdall*, it says, "At 4 p.m. it was reported that she had a list of two feet to starboard, and that the water had began to lie in the starboard bilges." There the trouble begins, and that disables her pumps and puts out her fires. Anybody who has had experience in steamers will know how very little water in the engine-room



is sufficient to disable a steamer altogether, and if she is so disabled, and the weather is bad, she is utterly helpless. This vessel was from the Black Sea, so that it does not follow that the vessel should come from America to be lost. A dusty cargo makes it difficult for men to stay in the holds to trim the cargoes, and, unless the officers are very careful and attentive, the work is often neglected, and the space in the wings and beam fillings is left empty, to be filled as the case may be by a heavy list. The report proceeds, "The Court did not think it was necessary to recapitulate all the facts, except that the ship, after she left Otchakoff, met with bad weather, and took a slight list to 'port' before arriving at Malta. This was rectified by working the coals. After leaving Malta, and before arriving at Gibraltar, she took another slight list to 'starboard,' which was also rectified in a similar manner." That, to me, is a convincing proof that she was excessively crank, and this working of the coal from one side to the other from day to day, was sufficient to list her to one side or the other. "In the Bay of Biscay the ship took another list to starboard, which was righted in the same way before they got to Dover. After leaving Dover bad weather began, and the list increased, and afterwards she began to list heavily. The ship fell off with her head to the N.W. and shipped very heavy seas, her gunwale being on a level with the water, from which position she never recovered." Then there is this important reference made to the *Roscommon*, which was a coal-laden ship. The Court were of opinion that as regarded her hull, machinery, and equipments, she was in a good and seaworthy condition when she sailed for Liverpool. "As to the stowage of the cargo, the Court considers that an error was committed in not entirely filling the lower main-hold. As to the ballast-tanks being empty, or nearly so, the master followed the course adopted on two previous voyages, and which, from the evidence, appeared to have been the usual custom. But the Court were of

opinion, having regard to the disposition of the cargo, it would have been wiser to have filled the water-tanks." That is very fine indeed! The filling of the water-tanks means shutting out of the ship so many tons of cargo. In a ship of 2,000 tons dead weight, the cargo shut out by filling the water-tanks would be 200 or 300 tons at least. The owner, in such a case, says, "Shall I sacrifice the freight on 200 or 300 tons?" He says "No," and does not do it. The ship goes to sea in this unfortunate crank condition, and, as in this case, she turns over. Another sentence in the report to which I would call your attention is this. "But the Court could not but arrive at the conclusion that the *Roscommon* was known to be a tender vessel." That is known in a great many instances where ships have double-bottoms, and yet they are sent to sea. "And considering her character as such, they were of opinion that she carried too much top-weight in cargo for a winter voyage, bearing in mind the vacant spaces left in the lower hold, and in the ballast tanks." There is one subject I wish to speak of; the large engine-room space, as to which Captain Milbank said that the weight of engines and coals together would be as much as the weight of the cargo which could be put there. That may be, but there is this large empty space, and above it is another space which is filled because of this large empty space below. The weight of cargo is carried up in fact. "The fact that a nearly new vessel, only on her third voyage, was lost in weather which was certainly not exceptional, seems to suggest that the system of coal-lading as now adopted, and the filling or otherwise of the ballast tanks, according to the lading of the vessel, requires serious consideration." So I think Captain Milbank spoke of the difficulty of regulating such matters. I am of opinion that regulation is wanted in the case of all homogeneous cargoes, such as oats, barley, cotton-seed, and wheat, because some of those ships we have been referring to will scarcely carry

their dead-weight of wheat, and they go to sea crank. What I ask for is that these public authorities shall interfere, as they may do, to the extent of ascertaining from the well-known proportions of these vessels, to what extent they are unsafe with these double-bottoms, and having ascertained that, that they should give public warning of what is to me so patent, that those ships are not safe to carry bulk cargoes. Then the responsibility comes back on the people who send them to sea with such cargoes. I know an instance of a very large and fine steamer, apparently new, which arrived in London not long since, with a cargo of grain from America, very deeply laden. In our opinion it does not matter how deep a ship is laden, so far as her safety is concerned, if she is weighted properly and the centre of gravity is properly placed. The captain of the vessel I refer to (who, by-the-bye, was once an officer of mine) said, seeing the ship so deep, he protected himself by constructing trunkways from his cabin and the forecastle, so that he might come up in bad weather; but he said: "My only fear was that something would compel me to round-to in the sea, and then I must have capsized." There is a pretty thing! This ship was actually not fit to lie in any position she might be brought into at any moment, and she ran great risk of capsizing.

Captain HECKFORD: In all these cases of total loss we have no evidence of the cause.

Captain FROUD: We know in the case of the *Heimdall* and the *Roscommon* how they behaved. We have plenty of such evidence as that, and there is the indirect evidence that sailing ships never used to capsize like these steamers, although they pitched and lurched in heavy seas under press of sail.

Captain SAUNDERS: I do not think that sailing ships were ever required to carry bulk cargoes.

Captain FROUD: Oh, yes, plenty of them were.



Captain SAUNDERS : I mean grain cargoes.

Captain BURROWS : Not only did the sailing ships not capsize, but as a rule they used to carry grain cargoes without shifting boards for years and years.

Captain FROUD : We have nothing to blame but the faulty proportions of the ships.

The CHAIRMAN : Gentlemen, we have reached about the usual time for adjourning, and as I said before I am deeply impressed with the gravity of this subject, and I suggest we adjourn this meeting, and I therefore move that the meeting be adjourned until next Thursday at 3 o'clock.

A cordial vote of thanks to Captain Froud for his paper, and another to the Chairman for presiding, terminated the proceedings.

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#### ADJOURNED MEETING, HELD 5TH FEBRUARY.

The Chairman (Captain BENSON) having introduced to the meeting the subject for consideration, and having shortly summed up the remarks of the speakers on the last occasion, the discussion proceeded as follows :—

Captain HECKFORD :—Mr. Chairman and Gentlemen, I promised at the last meeting to furnish you with particulars of the total losses that had occurred in the past few years of cargo steamers, but I have found the time between then and now so limited, and my time has been so much occupied, that I have not been able to do all I could have wished. I dare say you have seen during the last two or three weeks what has been published in the *Shipping and Mercantile Gazette* on this very subject. At our last meeting I promised to furnish you with an amount of data in connection with the subject now before us, but as the expressed opinion of the various members of the Society is likely to prove the outcome of a larger growth, it may be as well merely to state that the recorded number of total losses which I have from time

to time placed on record since the 1st January, 1877, to the 31st December, 1879, give the large number of 137 steam-vessels lost from every variety of cause. To analyse even that number would take more time than I have been able to devote to it, and I must therefore ask you for the present to be content with an extract from a letter in the *Shipping Gazette* of the 9th January last, and which is correct compared with my record, and will of itself give you a fair insight into the subject we are called upon to discuss. The following are the names of the ships that are mentioned in such letter, and to which I have added the port where constructed. I may say that out of these 28 cases, 14 of the vessels were built at Newcastle, 4 at Sunderland, 3 at West Hartlepool, 2 at Stockton, 2 at Middlesborough, and 2 at North Shields. The first is the *Joseph Ferrens*, built at Newcastle—length, 270 ft. ; breadth, 34 ft. 2 in. ; depth, 24ft. 5 in. ; decks, 2 ; tiers of beams, 3 ; class, 100 A1 ; double-bottom, and percentage of depth to breadth, 71. The next one is the *Marlborough*, built at Sunderland—length, 301 ft. ; breadth, 36 feet ; depth, 25 ft. 3 in. ; decks, 2 ; tiers of beams, 3 ; class 100 A1 ; double-bottom, and percentage of depth to breadth, 70. The next is the *Kensington*, built at Newcastle—length, 240 feet ; breadth, 33 ft. ; depth, 22 ft. 4 in. ; decks, 2 ; tiers of beams, 3 ; class 100 A1 ; double-bottom, and percentage of depth to breadth, 68. The *Roscommon*, also built at Newcastle—length, 245 ft. ; breadth, 33 ft. 3 in. ; depth, 23 ft. ; decks, 2 ; tiers of beams, 3 ; class 100 A1 ; double-bottom, and percentage of depth to breadth, 69. The *Tiara* was built at Newcastle—length, 283 ft. 4 in. ; breadth, 33 ft. 3 in. ; depth, 24 ft. 2 in. ; decks, 2 ; tiers of beams, 3 ; class 90 A1 ; double-bottom, and percentage of depth to breadth, 72. The *Telford*, built at Newcastle—length, 270 ft. ; breadth, 34 ft ; depth, 24 ft. 4 in. ; decks, 2 ; tiers of beams, 3 ; class, 100 A1 ; double-bottom, and percentage of depth to breadth, 71. And that is about the average of the whole of them. That

will give us a pretty fair insight into the subject. The data, as far as the measurements are concerned, will give us a good insight into the primary cause of the losses. I may say also, in passing, that the letter to which I have referred says this: "You will observe that 21 out of 27 of these steamers were two-decked vessels, with three tiers of beams, and that their depth exceeded 65 per cent. of their breadth. Of the remainder (2) the *Armstrong*, and the *Albert* and *Edward* were self-trimmers, and (1) the *Henry Coxon* carried a deck-load of sleepers, and is supposed to have capsized. Eleven of the cargoes consisted of coals, which are a pretty safe cargo; 14 of grain, 1 of railway iron, and 1 of sleepers. It, therefore, would appear, that the great majority of these losses occur in consequence of steamers being built of insufficient beam. If so, and this way of building is not altered, we shall have a repetition of the recent severe losses by which so many valuable lives have been sacrificed." The writer of this letter does not give his name, but when we look to the fact that 28 steamers, with crews, say, of 600, in the last two years, have passed away without leaving one soul to tell the tale as to the cause, surely it calls for more than a passing comment. If I have time still further to pursue this subject, and to analyse my records, I shall be happy to lay the result before you. But these particulars which I have stated to you to-day have appeared in print, and if they are of any use to the Society, I shall be glad to have brought them forward.

Captain FROUD: I venture to say, in answer to what has been stated, that these proportions of depth and breadth of hull elevate the cargo all along upon the double-bottom.

Captain BURROWS: Since last week I have given this subject some little attention, and I have come to the conclusion that the principal cause why grain-laden steamers "turn the turtle" is that we are in such a dreadful hurry in the present age, and that we have not time to stow the cargo



in a proper manner. When the Suez Canal was opened I saw cargo being poured down the hatchways of steamers on both sides of the ships, and working night and day. I once asked the ship's husband, "What is all this hurry about; are the folks in Calcutta starving?" He answered, "No; but it will not pay unless we work all night." I then said, "It will not pay if you do it." This hurry and skurry in our docks has led to loss, in breakage and a short delivery of cargo, more than the loss of time, and it is as the drop in the bucket to the loss which occurs from the new mode of pouring the grain down the holds of the vessels by the elevators. Something was said on the last occasion about the danger of ships being built with double-bottoms or ballast-tanks, and that these, when empty, were like air-bags being placed there, which would have the tendency to assist in making the ship top-heavy, especially when the cargo, being all of the same weight and description, was stowed right up to the upper deck. In this I quite agree, but we must be careful, Mr. Chairman, not to be in a hurry to condemn ballast-tanks altogether, as they have been in use now for a quarter of a century; and we must bear in mind that a large portion of this space in all iron ships is at all times an empty space, and so far just as much resembles air-bags. In a wooden ship this space between the floor and the footling is of the smallest, as the space is occupied with the floors, but in an iron ship the floor-plates are so thin that it is nearly all space. These double-bottoms were invented by Mr. McIntyre, of Palmers, on the Tyne, for screw-colliers, and for such they are admirable, as I contend that such cargoes are not liable to shift. In my opinion, many of our new steamers are built with a great deficiency of beam and much too slight, everything being sacrificed to cargo space, as Captain Benson has pointed out. Another great misfortune to our Mercantile Marine is that the *bonâ fide* shipowner is becoming so much like the stage-coach—a thing

of the past. Men get up companies who really know nothing about ships, and they care as little, so long as they get their picking out of them. But God help those who have to go to sea in them, as well as those outside shareholders who are duped into putting their money in them in hope of large dividends! Of course I exclude those old and respectable companies that have been honourably formed and have experienced old salts on their boards to ship's-husband them. These have stood the test of time; but we know that there are men of straw who get up steamship companies who ought never to have had the management of half-a-dozen London wherries. These men advertise for a captain to command who can put a sum of money down for so many shares. I caution all masters not to listen to them, for if they do they will find at the end of the first voyage some trumpery complaint got up against them, and another man is wheedled into paying down ready money for the command, not that the first master's shares are to be exchanged—oh, no; the manager sells his own shares to the new master, if he has any, and the first captain finds himself turned adrift with his unsaleable shares on his hands. These are a few of the things that have occurred to my mind as to the cause of many of our cargo-laden steamers going to the bottom. We all know that with a steamer properly laden with general cargo out from London or Liverpool, where cargo is properly stowed with the weight at the bottom and the lighter stuff at the top, there can be no danger. I do think it is a very dangerous thing that grain should be shot down into a steamer in this hurried manner with no possibility of trimming it up into the sides and under the deck; and none of us can wonder if the ships come to grief where that course is pursued. I only hope this bad practice will be rectified, and then we shall hear of fewer of these terrible accidents at sea.

Captain ROPER: I, Sir, have loaded cargoes in America,

and I have positively refused to be loaded by the elevator. When the elevator came along side to load the grain in bulk I would not take it. The work was stopped for twelve hours, but they came to my terms at last. I had to hire bags, which, however, cost me very little, in fact it was like my taking the bags freight free. The shipper said, "If you like to pay us a very small trifle we will put the cargo in bags." I signed for the bags and delivered them when I came to London. I had some of the heaviest weather I ever saw in my life in the Atlantic. I had over 3,000 tons of cargo and 500 sheep on deck, and the weather was so heavy that I had 50 sheep washed off the deck; but the ship remained upright the whole time because the cargo was stowed in bags. In taking the course I did I ran the risk of being turned out of the ship, but I said positively I would not go in the ship if she was loaded with grain in bulk. I have no objection to give the names of my agents. They are very honourable men, and they are also agents for the Anchor Line of steamers, and their names are Henderson Brothers. On the occasion I have referred to I spoke to them and they said, "put it in bags," and there was no accident.

Captain DE STEIGER: I desire to say a few words, not that I pretend to be able to give any special information, but because some years ago I was personally interested in a steamer which I commanded, which, under circumstances of loading grain, nearly went down in the Bay of Biscay. The voyage on which I commanded this steamer was one from Bassein, and she was laden with grain. She was a ship which carried water-ballast. We left in due course and proceeded on our voyage, until having passed the Straits of Gibraltar we got into very heavy weather. The ship was always crank, and I felt sure during the voyage that we should have very great difficulty in keeping her upright in a gale of wind, that is to say, to keep her from lying over dangerously; I will not go further than that. As I say, we



got into a heavy gale of wind, and the ship went over on her beam ends and we could not keep her head to wind, she had not power, with the sea on the bow, to ride over the waves ; she would constantly fall off into the trough of the sea and roll about, and she rolled about until she got her cargo on one side. I should tell you it was in bags, as you would understand it would be coming from Rangoon. On reaching port, the owner asked me how I liked the ship. I replied, " I would not go in her again, because I feel sure if she were in a gale of wind in the Bay of Biscay she would go down." She made one voyage after that with a cargo of cotton, and the next voyage she did go down while laden with a cargo of grain from the Black Sea. I only give you this as my experience.

Captain HECKFORD : Was she a double-bottom ship ?

Captain DE STEIGER : She was, and she was as shamefully built a craft as ever I put my foot in, and I would no more have gone in her the second time than I would have attempted to fly.

The CHAIRMAN : There, Gentlemen, is another piece of valuable experience, all tending in the same direction. Surely we are not likely to be all wrong.

Captain ROPER : I think it was lucky that Captain De Steiger had the cargo in bags. If it had been in bulk he never would have come home to tell the tale.

Captain DARKE : I did not intend to address the meeting to-day at all, but I have heard one or two remarks very much to the point. I dare say a great many of you may know that we have been engaged in the grain trade for a great number of years. We have carried grain from Montreal and from many other places, and we have never had an accident in any case. I believe it does not depend entirely, or nearly entirely, on the packing of grain cargoes. I believe the great mischief arises in the first place in the build of the ship. I believe that half the ships afloat are not properly

constructed for carrying grain cargoes. I believe when carrying heavy cargoes they may manage to get along pretty well as long as fine weather continues. In the first place I think they are built too deep for grain, and that if properly loaded, heavy cargo below and light cargo between decks, they would go all right, but in many cases they are loaded right up to the upper decks and the water tanks are in many cases directly below, empty. I think the engines are also a source of danger, because they have not power to keep the vessel's head to sea, and if they get into a gale of wind the vessel cannot be kept end on, and the sea goes right over, and no power can save her. The vessel in that case is more dangerous than a deeply-laden collier. Smallness of crew is also, in my opinion, another source of danger. There are gentlemen in this room, who, if they spoke what they knew and from their hearts, would say many of the vessels going from the port of London are not fit to go across the Atlantic or the Bay of Biscay. (Hear, hear.) I believe the time will come, and indeed it is coming now, when some of you gentlemen will be put under examination, and I do hope you will state the truth and from your hearts, for it is a crying shame that we should lose steamers as we do without inquiry being made into the cause. I think the time is coming when inquiry will be made. My belief is that vessels are badly constructed, and that one-half of them never were intended, or ought not to have been intended, to cross the Atlantic. I hope, gentlemen, when the time comes we shall be unanimous in our opinions and give expression to them.

Captain BUCHANAN: I had not the pleasure of being present on the previous occasion when this interesting discussion was commenced. I think the object of the discussion is to ascertain why ships founder; but I think we should not jump to hasty conclusions, and attribute it either to the double-bottom or to faulty construction in particular trades. All the steamers that have foundered have not foundered through

double-bottom, or through not having the cargo in bags, because we find some vessels with coal even, have capsized, and one vessel, the *Roscommon*, is quoted. In that case we are told that the tanks of the vessel were not even full. I know from her dimensions that the double-bottom, or the tanks not being full, could have nothing to do with it. I know something of double-bottom ships, and my experience shows that water-ballast is a decided advantage in many cases. I know vessels that have water-ballast, which, when they carry a cargo of coals, have almost nothing in the 'tween-decks and, in my opinion, that ship is more seaworthy than if she had not water-ballast—the centre of gravity would be very much lower. Then, again, vessels carrying barley and oats are able to fill themselves, and those vessels without the water-ballast could not carry themselves full. I say that water-ballast and double-bottoms are not causes of ships foundering. There may of course be some ships badly proportioned in which these causes may operate. If you look at the records of missing ships, you will find that the number bears a much smaller proportion in the Atlantic than in the Mediterranean and the Baltic. I believe one of the greatest causes of ships foundering is shifting of grain in bulk. People say ships used to carry grain in bulk in former days, and there were very few accidents; but, I do not think in former days we had the accidents very accurately or fully recorded, or else they were not so numerous, or because it did not happen that there was so great a loss of life, and it was not brought so prominently before our notice. In my opinion, one of the chief causes of loss of ships is the carrying of grain cargoes in bulk, and I think this society would do well to direct its attention to that, and get the practice stopped. Coming across the Bay of Biscay, everyone is in dread of the cargo shifting if it is in bulk. If the greater portion of it were in bags we should not have that anxiety at all events. I think an undue amount of attention has been directed to



double-bottoms and water-ballast, and I may mention to you that the Peninsular and Oriental Company are getting ships built, and, notwithstanding all their improvements, they are adopting the plan of water-ballast, and that company, I think, would not do it without consideration. So that I would offer my opinion to you, that in attributing the losses we hear of, to water-ballast, although you may have that cause in some few instances, you have not got the principal cause in all instances.

The CHAIRMAN: My friend, Captain Buchanan, very properly has given us the benefit of his opinion, and he speaks as he finds; but as he told me not very long ago, there are double-bottoms and double-bottoms, and his double-bottoms belong, I suppose, to the former class and not to the latter. I do not think either, that the entire cause we are endeavouring to investigate is referable to double-bottoms; but, I do think double-bottoms have something to do with it. Captain Buchanan tells us that the Peninsular and Oriental Company are building ships with double-bottoms; but, sometimes, ships are built with a small portion—say a given number of frames in the centre, under the engine-room—which is decked over for that purpose; but the double-bottom is not from one end to the other. That the loss of every vessel that we are now complaining of is referable to double-bottom, I do not think any gentleman who has spoken on this subject has gone the length of saying. For myself, I have never mentioned double-bottoms, for I thought others had said enough upon them, and I went to other mistakes which I thought were very fruitful of disasters. I am, however, glad that Captain Buchanan has given us the benefit of his experience, because I know how valuable it is. I am sure we all wish to get at the real cause, and whilst we may go a great length with him in saying the double-bottom is not the entire cause, yet we are not prepared to give up that portion of our argument in which we say that a portion of the mischief is referable to double-bottoms.

Captain BURROWS: I can hardly agree with Captain Buchanan in the remarks he has made about sailing ships which used to capsize when loaded with grain in bulk. He says the reason we think accidents did not happen, is because they were not so prominently brought forward as such accidents are now. I think the reason why sailing ships did not capsize formerly, was because in those days ships which carried grain were not in so much hurry as we are now, and time was given us to stow cargoes properly. I have not had much practice in carrying grain; but I do think in the case of a ship, whether iron or wood, constructed with proper dimensions, that if the grain is stowed into every foot of the hold, and is thoroughly filled chock-a-block, it could not fetch way any more than a puncheon filled with water if it was filled to the bung.

Captain ROPER: It settles with the shaking.

Captain BURROWS: It settles, but not to any great degree.

Captain DE STEIGER: Even coals settle.

Captain BURROWS: How often do we hear of coal-laden ships capsizing? I do not believe the *Roscommon* capsized from that cause. I have carried coals all over the world, and I have never been afraid of my coals shifting, not even in the coal-hole. I have never heard that the coals were down on the leeseide, and I do not believe that coals will fetch way at all. I think the reason why sailing ships were not lost, was because we used to take time to stow our cargoes properly, and I believe if a cargo of grain is properly stowed, even in bulk, that it can be carried safely. I prefer bags of course, and I shall be glad to see the day when the loading in bulk will be prohibited, because our ships now-a-days are too narrow, and therefore not so safe as our old ships were; and I think, as we are determined to build these narrow ships, loading in bulk should be prohibited.

Captain ROPER: If you take a bushel of grain and strike it off with the striker and then knock the side of the bushel, it will go down an inch.

Captain BURROWS: So it will settle down in bags. We did not at one time have shifting boards, but now if it does shift, where shifting boards are used, only half the cargo will shift.

Captain ROPER: You do not want shifting boards, a few bamboos along the stanchions will do.

Captain BURROWS: I say the ships are too narrow, and that there is not proper time given for loading.

Captain TRAVERS: Mr. Chairman and Gentlemen, I have had some experience in steamers since 1849, and, having heard the remarks which have been made, I offer you my opinion. My opinion as to grain-laden ships from the States and the Black Sea, both of which I have had experience in, is that the principal cause is loading in bulk. The elevator has not altogether to do with the loss of a ship loading in bulk, nor has want of trimming, for many careful shipmasters open their 'tween-decks and fill up the ends of their ship in all parts through the 'tween-decks. They also use spouts passed from the elevator to fill up the ship, and with a double-bottom these ships may be trimmed by grain passed in by hand in baskets. But these cargoes all settle down. The first breeze you meet causes the cargo to sink in the ship's hold two feet or even more. Then with all the careful stowing they have there is a space left for the shifting. I remember on one occasion being in a new double-bottom steamer on her first voyage from the Black Sea. When we got into the Bay of Biscay we were in constant fear of going over, so we had to wear round from one tack to the other to get her head on. In the same vessel, we discharged in the north of Ireland and came into the English Channel again, and when we opened the "Tuscar" there was a south-west swell on. The vessel commenced rolling so heavily that she became unmanageable, and we had to bear up and get under the shore again for protection. She was a perfectly seaworthy ship, but had nothing but the



water-ballast, and she rolled so much that we could do nothing ; we could not stand to steer, and we could not work in the engine-room. I say the cause of disaster was neither alone the elevator nor the double-bottom. I have known an instance of a double-bottom ship in the same employ in which I lately commanded a steamer, where 6,000 bags of sugar were on her lower deck on the top of the ballast, and when the engineer commenced to pump the water she fell over so far that we thought we should never get her up again. I went to render assistance, but as soon as the tanks were half empty over she went again. I considered the ship very dangerous, but others, from long experience, thought nothing of it ; but she was a ship I should have been very sorry to go across the Atlantic in with a grain cargo. I have known many vessels from New Orleans loaded with grain which I thought unseaworthy, and some of those have been lost. I think the great cause of loss of the Atlantic ships is that they are loaded with grain in bulk, and that the double-bottom is also a cause of loss. I do not mean that the double-bottom is alone the cause of loss ; but, on the contrary, I think that a double-bottom ship properly loaded, with the heavy cargo at the bottom in the usual way as a ship should be loaded, is as safe as any other ship. But I say that a double-bottom ship when loaded with grain in bulk is a dangerous ship, and that is one cause of loss. It has been said also that another cause of loss of these steamers is want of power. I do not agree with that altogether ; I do not think that that alone is the cause. I have had some years' experience, as I have told you, and my plan is always to reduce the steam-power in a heavy gale of wind to the very lowest degree, merely allowing the engines to revolve with sufficient power to enable her to keep right in a gale of wind. To attempt to keep a ship head-on in a heavy gale of wind is, in my opinion, madness. I think the slower the engines go the better. The engines just properly moving with the

storm sails set, is the safe point for a steamer in a gale of wind. (Hear, hear.)

Captain DARKE: Gentlemen, I have just a few more remarks to make upon this subject. I think if we were to carry on this discussion to any length we should not arrive at a satisfactory conclusion, and that we should never be able to trace the loss of a steamer to any particular cause. The opinion of a great many of us is that the double-bottom is the cause of loss; the opinion of others is that faulty construction is the cause; and others think that the cargo being laden in bulk is a very fruitful source of danger. I believe all the sources mentioned are causes of danger, and it will be a matter for investigation afterwards to ascertain which is the best way to obviate these dangers. I believe a stiff ship, which will stand comfortably without ballast in the dock, may be filled up with a grain cargo without any fear whatever. I have had great experience with many grain ships, and I have always found that ships which would stand in a dock without any ballast at all would go perfectly safely without capsizing.

Captain BURROWS: But she would have sufficient beam.

Captain DARKE: Yes. Ships laden with cargo in bags are very much safer than those laden in bulk. There can be no question about that whatever. But as we have been carrying grain cargoes so long with only a small proportion of bags, I do not see why the fault should be laid entirely on the fact that the cargo is laden in bulk. I believe it will be a great source of discussion by-and-bye to find out the cause of these losses. Something, no doubt, will be done very soon, and I trust some of the gentlemen here, or most of them, will be called upon for evidence.

Captain HECKFORD: What would be the loss in bulk in carrying it in bags?

Captain DARKE: You would lose nothing whatever. You can hire the bags and take them back again.

Captain ROPER : You sign the bill of lading for the number of bags you have on board.

Captain HECKFORD : I am speaking of displacement.

Captain BURROWS : I think a ship will load herself quite deep enough with the bags.

Captain HECKFORD : The question is, do not they load them too deep ?

Captain BURROWS : I think all you gentlemen who load in Rangoon are satisfied that the ships will load deep enough when loaded with cargo in bags. There is no loss on account of the bags.

The CHAIRMAN : Gentlemen, I will now call upon Captain Froud, who read the paper, to conclude the discussion, and he desires also to conclude it with a resolution for your consideration and adoption.

Captain FROUD : Gentlemen, I have really very little to say in addition to my remarks on the previous occasion of our meeting here. I do not pretend to say for one moment that double-bottoms even with insufficient beams are the sole cause of the loss of ships. I only say that with certain grain cargoes, and in many instances coal cargoes, ships with double-bottoms are very unsafe, and that the number of them lost does make up a very heavy proportion of the losses at sea. We only need look at the missing list at Lloyd's. We have seen during a very recent period that coal-laden steamers do capsize, and you know how easy it is for these double-bottom grain-laden ships to go upon their beam ends and so be lost eventually. You need only refer to the *Shipping Gazette* of last month, where there is a report of an enquiry held into the loss of the *Heimdall*. She was on a voyage from the Black Sea, and in heavy weather she went first to one side and then to the other side and eventually was lost. There is nothing to lead me to think her cargo shifted. As has been said over and over again, sailing ships have been carrying grain and coal for very many years and



very few have been lost from the shifting of cargo. All the Italian and Austrian ships, and a very large proportion, or, indeed, all the English ships coming from the Black Sea carry cargoes in bulk. Steamers make a larger figure in the list of vessels lost than sailing ships, although the latter outnumber the former by far. It is necessary to give a ship a general cargo with a good proportion of dead-weight of iron ore or something of that kind. Before I conclude I will just read a few words from a confidential report issued by an important corporation in London bearing on what I said the other day. I do not tie myself up to vessels crossing the Atlantic. Steamers are lost in the Mediterranean, the Baltic, and the North Sea. This report says: "Vessels may be engaged in the Atlantic trade (and owing to the recent exceptions) which although not deficient in point of strength, are yet from their dimensions, proportions, and type, and from the smallness of their engine-power, not suitable to contend with the Atlantic storms." Again it says this, which has to do with the use of double-bottom. "The arrangements generally adopted for carrying large quantities of water-ballast in the double-bottoms of these steamers afford immense economical advantages." There is the secret of it. Then there is the following in the same strain. "It has been found that steamers crossing the Atlantic with water-ballast in large quantity carried at the extreme lower part of the hold have been unduly stiff from their comparative light draft of water, and the result has been violent and excessive rolling, causing undue straining of the ship, and also racing of the propeller, tending to strain the engines. The remedy, of course, is to carry more weight higher in the vessel, thereby reducing the stability, and, at the same time, giving deeper immersion, and this will, doubtless, in future, be more generally resorted to." That has to do with the ship going in ballast. Again the report says, and this is a point to which I call attention. "The question of the protection of deck-openings is,

as we have before stated, one of the utmost importance, and deserving of the most careful consideration.” No doubt about it. We know of many ships which have been lost, and one was nearly lost the other day from a failure of some of the fittings to the openings on its deck. That was the *Eldorado*. Her engine-room was nearly disabled, and, as I said the other day, anybody who knows anything of a steamer and has been in one in bad weather at sea, must be aware how easy it is for a very little quantity of water in the bilges to disable a steamer. There are plenty of instances where the pumps lead only to one side or into the middle ; either in one case or the other, if the water gets on the wrong side, or if she has much list and the water gets down into one bilge, a very little quantity of water will disable her. With these few remarks, I beg leave to propose the following resolution :—

“ That in the opinion of this Society the increasing number of losses of grain, and similarly loaded cargo-vessels, renders it necessary that the Board of Trade and Lloyd’s Registry should be requested to institute inquiry and scientifically test the stability of ordinary double-bottom steamers when laden with grain, seed, coal, and similar cargoes, having their double-bottoms empty, and that if these are found unsafe a public warning should be issued.”

Captain SAUNDERS: I have much pleasure in seconding that.

Captain BUCHANAN: Mr. Chairman, before the resolution is passed, I should like to say that I rather regret that this inquiry which is such an interesting one should have narrowed itself down. I cannot help thinking that the principal object Captain Froud has in his mind is the double-bottom. I assure you, ships founder from many other causes. This resolution would promote an inquiry into the question of double-bottom. Why should we have an inquiry into double-bottom? Let us have it perfectly general. “ Why

do ships founder?" Really, I object to the resolution as it stands, most strongly. We cannot put our finger on double-bottom and say it is the sole cause; let us have the inquiry general. We may get the double-bottom dealt with and we may find it is all wrong, and that it is something else, which I am sure it is.

The CHAIRMAN: We have these words: "If found." I do not think you are altogether wrong, and I do not suppose anybody else thinks so, but if an inquiry is started at all it must be started on something, and here we do take what is considered generally, at all events, to be one of the most fruitful causes of loss. If you start with that the others must follow naturally. The inquiry would not be narrowed down to that rigid line, and it would not be said, "You must keep to the question of double-bottom." The inquiry would be to find out what the cause is of ships foundering. This resolution does not say we believe the double-bottom to be the entire cause. That has not been said at all, but we know perfectly well that if we want to get cases where double-bottom has been the cause beyond doubt of the loss of the ship, there are plenty on record. Therefore taking that fact, which cannot be contradicted, we start upon it, and the other causes must naturally be inquired into, so that I think my friend Captain Buchanan may very well let this resolution pass.

Captain BUCHANAN: As I said before, this Society is making a mistake in asking for an inquiry into the question of double-bottoms. The effect of it will be *primâ facie* evidence that we consider it the principal cause, and I maintain that it is not. There is no doubt that some vessels which are not seaworthy have double-bottoms but some which have double-bottoms are more seaworthy than those which have not. I say that advisedly, and I beg leave to propose this amendment:—

"That this Committee be instructed to represent the



matter to the authorities, and to request them to take such steps as may be deemed necessary to ascertain the causes why cargo steamers founder." (Applause.)

Captain FROUD : I venture to think that in that case we should be embarking on another unseaworthy ships' inquiry.

Captain HECKFORD : Something very like it.

Captain BURROWS : Confine it to steamers.

Captain ROPER : Confine it to grain cargoes in bulk. That is a cause acknowledged throughout the profession.

Captain DARKE : I beg leave to second the amendment. I believe we should be doing very wrong in picking out any particular cause. I believe the thing will have to be throughly investigated, and why are we to pick out one cause when we know there are so many which lead to the loss of ships. I think it would be a very wrong step to take, and I therefore have pleasure in seconding Captain Buchanan's amendment.

Captain HECKFORD : I object to the word "cargoes," it is too general. Why not specify grain in bulk ?

Captain ROPER : Grain cargoes in bulk.

The CHAIRMAN : Have you any objection to that, Captain Buchanan ?

Captain BUCHANAN : The other day there was a steamer with a cargo of coal foundered. It was a very interesting question to us all, because it is so strange to our experience. I think I would hardly limit it to grain in bulk.

The CHAIRMAN : The paper upon which this subject has arisen did not mention grain, it simply asked, "Why do cargo steamers founder?"

The resolution and amendment were put to the meeting, and the latter was carried by a majority of seven.

The customary vote of thanks to the Chairman having been passed, the proceedings ended.

## LOSS OF THE S.S. "HEIMDALL."

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THE following extract from the judgment given in the case of the inquiry into the loss of the s.s. *Heimdall*, held at the Wreck Commissioner's Court, is worthy of record :—

“ In the opinion of the Court, the captain behaved with bravery, skill, and judgment in the difficult circumstances in which he was placed. He must therefore be exonerated from all blame. The Court could not deal with his certificate, and was happy to say it had not been pressed to do so by the Board of Trade.”

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## BRITISH SHIPMASTERS' ASSOCIATION, HULL.

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THE Sixth Annual Meeting of this Association was held on the 6th of January, when the following Report was read and adopted :—

“ The total number of members who paid their annual subscriptions last year is 280. This number shows an increase of one member over the total of the previous year. The income account, which has been forwarded to all the members, shows that the annual subscriptions amount to £289 10s., or £2 17s. more than the previous year. The total receipts for the year, from all sources, is £305 7s. 4d. The total expenditure for the year is £315 13s. 9d., being in excess of the income by £10 9s. 4d. The cash balance carried forward to next year's account is £342 7s. 1d.

“ Four members have been defended before Courts of Inquiry, and one member, whose certificate was suspended by a Court of Inquiry held at Cape Town, has had the term of suspension considerably shortened in response to two

memorials to the Board of Trade. The total amount of the legal expenses for these four Inquiries was £167 4s. 6d., which sum gives an average expenditure of £41 16s. 1½d. for each Inquiry. This average cost is more than double the average of last year, and the increase is mainly owing to the Inquiry into the collision between the *Angelo* and *Deerfoot*, which in the experience of this Association was of a most exceptional character, both as regards its duration and, as a result of this, its cost also. This fatal collision took place in the Humber on the 17th November, at six o'clock in the evening, when the barque *Deerfoot* was riding in the Hawk Roads on her port anchor. The s.s. *Angelo*, from Christiania, with a general cargo, bound for Hull, struck the *Deerfoot* on the starboard-side, between the first and second shrouds of the fore-rigging, and sank her. The captain's wife was drowned. At the time of the collision the Humber was crowded with shipping seeking shelter from the bad weather, and the *Deerfoot* was anchored as near as possible in the middle of the fairway. Your Committee felt that the time had come when an effort should be made in the interests of shipmasters trading to the ports on the Humber that clear and precise regulations should be made and enforced with the view of rendering the navigation as safe as possible. With this object in view the services of an eminent London Solicitor were retained by your Committee, with special instructions to obtain, if possible, an expression of opinion as to the want of regulations for the navigation of the Humber. In this respect the result was eminently satisfactory, for in their judgment the Court stated that :—

‘ With regard to the fact that there were no authorized regulations to control the movements of the immense quantity of shipping seeking shelter in the Humber, the Court considered it would be much better for the safe navigation of the river if the Hull Trinity Board and the Humber Conservancy Board would obtain power to make and enforce certain



regulations.' Your Committee at once took advantage of this expression of opinion by addressing a memorial to the Board of Trade, and the prayer of that memorial runs as follows :—  
' That your Board will take immediate steps to carry out the recommendation of the Court, and have Regulations carried into effect for the navigation of the river Humber. That as the river affords good anchorage for weather-bound vessels, and there is an ample and abundant supply of pilots at the entrance of the Humber, that those Regulations may be expressly directed to the anchorage of vessels seeking shelter in the said River.' The reply of the Board of Trade to this memorial stated that they were :—' Already in communication with the Hull Conservancy Board upon the subject of regulations for the navigation of the river Humber.' Your Committee then opened a correspondence on the same subject with the Humber Conservancy Board, and the matter remains in this stage at the present time ; but the question, although unsettled, can with confidence be left in the hands of the new Committee to bring it to a successful issue.

“ The time occupied by Courts of Inquiry held at Hull has always caused much anxiety to this Association, and a strong feeling has grown up that so long as Magistrates, Assessors, and Solicitors are paid by the day there is a direct money inducement to prolong these Inquiries. The time occupied by the Court appointed to inquire into the *Angelo* and *Deerfoot* collision was, however, so far in excess of the time with which custom and precedent had familiarised the public that after its conclusion the local newspapers rang with loud complaints, and the public acknowledged that in this the shipmasters had excellent reason for protest and agitation. The sense of injustice was so general and so strong that it at length found expression in the London newspapers, and the *Times* contrasted the inquiries held by the Wreck Commissioner, as regards the time occupied, with

those 'Held before police magistrates, who have to hear a witness or two in the intervals of criminal business.'

"The *Angelo-Deerfoot* Inquiry was opened on Thursday, the 12th December. It was adjourned on Saturday, the 14th, until Tuesday, the 17th. It was a second time adjourned on Monday, the 23rd, until Friday, the 27th, and the Court delivered judgment on Monday, the 30th December. This monstrous Inquiry lasted for 19 days, and the Court sat on 12 separate days. The Court and the Solicitors profited by this prolonged Inquiry, and the Masters of the *Angelo* and the *Deerfoot* suffered bitter anguish and suspense. The public interest and sympathy were manifested at the last sitting by a crowded court, amongst whom were many of the first merchants and leading men of the port.

"The Inquiry into the total loss of the s.s. *Urbino* held in the Hull Sessions Court by the Wreck Commissioner, occupied only five hours, and thus affords a most striking contrast to the prolonged inquiry previously referred to. The business-like manner in which the Wreck Commissioner got through the *Urbino* Inquiry was in itself a most eloquent rebuke to the waste of time and money occasioned by the *Angelo-Deerfoot* Inquiry.

"Your Committee have been anxious to miss no opportunity to advance the interests of shipmasters and officers, and on the 6th May last, a memorial was forwarded to Viscount Sandon, the President of the Board of Trade, complaining of the unequal incidence of shipping-office fees. Again, on the 11th July, a most carefully prepared Petition to the House of Commons was presented, on behalf of this Association, by Mr. C. M. Norwood, M.P. This petition referred to the grievances of the shipmasters and officers of the Mercantile Marine with regard to the procedure of Courts of Inquiry, and also requested that an inquiry might be made under the circumstances under which certificates are now granted to foreigners to serve in the British Mercantile Marine Service.

“Your Committee have sincere pleasure in congratulating the members of this Association, and shipmasters generally, on the passing of the Shipping Casualties Investigations Act. They refer with a feeling of pride to the important part taken by the delegates they appointed in procuring certain alterations in the Original Bill. A full report has been prepared by the delegates of the interview of the deputation of shipmasters with the President of the Board of Trade, and a printed copy of this report has been forwarded to every Member of the Association. Great hopes are entertained that this important Act will be found to work satisfactorily, and that many of the grievances from which shipmasters and officers have for many years suffered will be removed or greatly ameliorated.

“The reading of papers upon nautical subjects at the monthly meetings of the members has been continued, and our President has taken great interest and rendered excellent service in this work.

“The dangerous state of the Hull Roads, resulting from the best anchorage and deepest water being permanently occupied by the guard-ship and the school-ship and their tenders, has seriously occupied the attention of your Committee. Steps have been taken which they hope will terminate in the clearing of the roads of these obstructions to safe navigation.

“Your Committee have also brought under the notice of the London Trinity Board the necessity of placing a light-ship near to Smith's Knoll.

“The sudden death of the late Captain George C. Nicholson removed from amongst us an active working member of your Managing Committee. His honest, manly bearing, and polished manners won for him a large circle of influential friends, and this was amply manifested at the funeral, when more than a hundred of the merchants, shipowners, and shipmasters of Hull took part in this last ceremony.



“The warmest thanks of the Association are due to Mr. C. M. Norwood, M.P., and to Mr. Chas. H. Wilson, M.P., for the kind interest they have shown and the active assistance they have afforded in the work done during the past year. Mr. Norwood rendered most valuable aid on the occasion of the interview of the deputation of shipmasters with the President of the Board of Trade. He introduced the deputation, and added the great weight of his influence and experience to obtain the important alterations in the Shipping Casualties Investigations Bill.

“Your Committee have expressed a decided opinion with respect to the stowage of grain cargoes, and they would now invite the members of the Association at the Annual General Meeting to state whether they would confirm this opinion upon a question of such importance to seamen, shipowners, and underwriters. In a communication made to Mr. Chas. H. Wilson, M.P., and dated 4th February, 1879, the opinion referred to is expressed in the following terms:—‘That the carrying of any portion of a grain cargo in bulk should be prohibited by Act of Parliament, and that it should be made compulsory that all grain should be carried in bags or sacks.’

“If anything be needed to convince shipmasters that the Association has done useful work during the six years of its existence, your Committee would remind them that the large sum of £666 13s. 7d. has been expended in defending members before Courts of Inquiry, and £62 5s. 2d. in Petitions and Deputations, making a total of £728 18s. 9d.”

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ERRATA.—Page 4, last number, top of diagram right-hand side, and bottom of diagram left-hand side, for “P. M.” read “A. M.”

BOARD OF TRADE INQUIRIES WHERE  
Reported since

| Ship.  | Casualty.  | Loss of Life. | Inquiry.   |
|--|--|---------------|--|
| <i>Acacia</i> , s.s. ... ..                                  | Stranding in Gulf of Riga,<br>14th July, 1879.                                 | ...           | Dublin :<br>Magistrate.<br>3rd January, 1880.                    |
| <i>Alfonso</i> ... ..  | Abandoned 90 miles N.E.<br>of Yarmouth, 18th<br>October, 1879.                 | ...           | Middlebrough :<br>7th January, 1880.                             |
| <i>Ladyland</i> ... ..                                       | Lost on Skulmartin Rock,<br>13th November, 1879.                               | ...           | Glasgow :<br>J.P.<br>7th January, 1880.                          |
| <i>Nith</i> , s.s. ... ..                                    | Stranded and lost on Ailsa<br>Craig, 19th November,<br>1879.                   | ...           | Glasgow :<br>J.P.<br>7th January, 1880.                          |
| <i>Beech</i> , s.s. ... ..                                   | Stranded and lost in the<br>Cattegat, 25th October,<br>1879.                   | ...           | North Shields :<br>Magistrate.<br>9th January, 1880.             |
| <i>Pride of the Wear</i> ...                                 | Lost on the Branskar Rock,<br>26th October, 1879.                              | ...           | North Shields :<br>Magistrates.<br>13th January, 1880.           |
| <i>Erato</i> ... ..  | Stranded on the Barrell<br>Rock, 27th September,<br>1879.                      | ...           | Westminster :<br>Wreck Commis-<br>sioner.<br>14th January, 1880. |
| <i>Alton Tower</i> , s.s. ...                                | Wrecked near Dungeness,<br>19th October, 1869.                                 | ...           | Westminster :<br>Wreck Commis-<br>sioner.<br>15th January, 1880. |
| <i>Lynn Regis</i> , s.s. ...                                 | Lost off Finisterre, 20th<br>December, 1879.                                   | ...           | Middlebrough :<br>20th January, 1880.                            |
| <i>J. M. Lennard</i> , s.s., and<br><i>Despatch</i> , s. ... | Collision and loss of<br><i>Despatch</i> , Sunderland,<br>28th November, 1879. | ...           | Middlebrough :<br>22nd January, 1880.                            |

## CERTIFICATES HAVE BEEN DEALT WITH.

1st January, 1880.

| Nautical Assessors.            | Finding of Court.  | Decision.   |
|--------------------------------|--|---|
| Hight.<br>Wilson.              | Careless navigation.   | Master's certificate suspended for 3 months.  |
| Beasley.<br>Curling.           | Captain neglected to procure shifting boards.  | Certificate suspended for 6 months; lower grade granted.                            |
| Ward.<br>Harris.               | Unseamanlike navigation.   | Master's and Mate's certificates suspended for 3 months.                            |
| Ward.<br>Harris.               | Unseamanlike navigation.   | Mate's certificate suspended for 3 months.  |
| Beasley.<br>Curling.           | Want of ability, judgment, and caution.  | Mate's certificate suspended for 6 months.  |
| Beasley.<br>Curling.           | Master in fault.   | Certificate suspended for 3 months; lower grade granted.                            |
| Harris.<br>Ronaldson.          | Improper navigation and under influence of liquor.   | Master's certificate cancelled <i>sine die</i> .<br>N.B.—Judgment appealed against. |
| Holt.<br>Harris.<br>Ronaldson. | Neglect to use the lead.   | Master's certificate suspended for 3 months; lower grade granted.                   |
|                                | Culpable negligence.   | Master's certificate suspended for 4 months.  |
|                                | <i>Lennard</i> , s.s., in fault; collision caused by the absence of a proper look-out, and want of masthead light. | Mate's certificate suspended for 6 months, but one of lower grade granted.          |



“ QUI S'EXCUSE S'ACCUSE.”

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THE first Inquiry held at the Wreck Commissioner's Court under the new rules, opened on the 12th of January, when the following speech was delivered from the Bench :—

“ Before we commence, I wish it to be clearly understood that the Court does not accept any responsibility for the very great extent of inconvenience to which the parties have been put by the long delay which has occurred in hearing this case, and a number of other cases which, as I understand, are now outstanding. The Court has been willing and anxious ever since the beginning of November last to sit, but it had no Assessors, and the power to select its own Assessors in each case was taken away by the Act of last Session, and no rules were made defining the mode in which the Assessors should be appointed until quite recently. The Court, therefore, was without any Assessors. For this unfortunate state of affairs the Court is in no way responsible.”

This apology recalls to mind the French proverb quoted above.

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CORRESPONDENCE.

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THE NEW RULES FOR THE THAMES.

*To the Editor of “ The British Merchant Service Journal.”*

SIR,—After reading Captain Colomb's paper on the rule of the road, and also Mr. Farrer's paper in your January number, I fail to see how the latter gentleman can use such strong terms after confessing himself unable to analyse Captain Colomb's arguments.

I am glad to rank myself amongst the men who are wanting in “ common sense ” sufficient “ to attribute much weight to conclusions so absurd ” as those arrived at by Captain Colomb's proposed rule.

Not being one of those “ competent lawyers or sailors ” referred to, I cannot see the fine point of difference between Captain Colomb's rule and the existing rule for crossing

steamers which Mr. Farrer endeavours to prove by his example.

Now, taking it for granted that Mr. Farrer's diagram is drawn to scale, and give No. 1 a speed of six knots per hour and No. 2 a speed of ten knots, acting on what Mr. Farrer calls the "*only safe* course for No. 1 to pursue," a collision is inevitable, as her stern will not cross the path of No. 2.

Now, the International Rule for crossing ships compels No. 1 to keep out of the way of No. 2, having a ship on her starboard-bow, and No. 2 "shall keep her course;" therefore, on a trial "the competent lawyers and sailors" would find No. 1 in fault, for "he has not a right to pursue the only safe course," as given by Mr. Farrer.

We quite agree that Captain Colomb's rule is simply one "that one ship shall not cross the bows of a second from the port-side to the starboard-side of the second ship," but that is exactly what the International Rule 16 says also; and we agree that the complement of the rule is implied in every rule, and in this case is found in the International Rules, Art. 22, for No. 2 to keep her course and cross the bow of No. 1. Therefore, the rules in effect are similar, if the wording differs.

Such an authority as Mr. Farrer laying down the law is a precedent for some men to quote in their defence; as competent lawyers in defending a client give chapter and verse for their argument, it would result in a trial of legal strength more than a question for professional or technical men to decide, and such an interpretation of the rules is a fine loophole for some unlucky owner of a certificate to creep out of, when he sees suspension before him like the rising sun.

Yours truly, B. D.

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#### GRAIN CARGOES AND SHIFTING BOARDS.

*To the Editor of the "British Merchant Service Journal."*

SIR,—In reference to grain-loading ships shifting their cargo at sea, about which you wanted the opinion of shipmasters who have been engaged in the grain trade, I beg to

observe, that it would only be waste of time to write, or say much more on the subject, while underwriters will not interfere in the matter. This reckless system of loading will go on as bad as ever, and not the underwriters alone, but the Government must be appealed to, to pass a law strictly enforcing, under a heavy penalty, how a ship's hold ought to be prepared, both in shifting boards and shoring them, and in vessels where the holds are not in separate compartments; that is, for instance, take a steamer, all that part of the ship abaft and the forepart of engine-room's coal-bunkers, are simply two holds, viz., forehold and aft. In the majority of vessels carrying grain in the two holds in question, there are no divisions, although to each of these holds there may be two or three hatches. In my humble opinion, and as having been with many grain cargoes, it would greatly tend to the safety of ships and lives (minus its attendant horrors), that between every two hatches in the hold a good firm three-inch planking-board be put up for a bulk head right across the hold, and shifting boards carried right up from the keelson to upper deck-hatches, and not the absurd system now in vogue, only from the 'tween-deck beams to the upper deck-hatch, and very often not even this. Now, the hold in two or three divisions as I propose, and the shifting boards from the keelson (and these well shored from the sides all the way up), I am sure would make the ship quite safe, and the hold being in separate compartments gives more strength to the shifting boards; and then another most essential thing, the shifting boards should be well double-matted, especially for such dangerous grains as linseed, rye, &c. If the cargo of grain was carried two-thirds in bags, less shifting boards and bulkheads would be required.

There is another cargo I wish to draw attention to; take for instance the ores brought from Spain, the utter reckless way of carrying it in the majority of steamers; when carrying it, it is simply piled up in the various holds, no *trunk-ways* what-



ever, nothing to check it from shifting. I consider it one of the most dangerous cargoes a ship can carry. I have had it several times with trunk-ways and without, only once without trunk-ways, and then it shifted, and to trim the ship upright at sea was simply impossible ; but, by good luck, we got into port all safe. In fact, there must be a law made, for then the shipowner and shipmaster cannot throw the blame upon each other, and the culprit will soon get fished out.

Yours truly, J. N. BEAVER.

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*To the Editor of "The British Merchant Service Journal."*

SIR,—The question "Why cargo steamers founder?" is one of vital importance to the British Merchant Service. It is a fact that numerous cargo steamers monthly disappear after leaving port, and in the majority of cases carry all on board with them to the bottom. Hundreds of good men are lost in these foundering, their deaths reducing those dependent on them for support to poverty, if not absolute destitution. So glaring is this fact that it becomes a positive necessity that this state of things should be looked into. I am glad to see the Shipmasters' Society, through the Committee, is taking it up. It is a subject that not only commands the attention of this Society, but is a matter for the serious consideration of the British Government and public generally. Are ships to be built that founder, when loaded, in the first gale of wind they encounter? Are they to be so loaded that there is no chance for them if overtaken by a gale? And are hundreds of our brother sailors to be monthly consigned to a watery grave and no voice raised against such wholesale destruction of life? We must stand up as one man and say this shall not go on.

I see that four ships were posted at Lloyd's on the 4th of this month as missing, three steamers and one sailing vessel, three being coal laden and one laden with steel rails. These four ships, with their entire crews, foundered at sea, causing

a loss of at least 50, possibly nearer 100 lives. In absence of any information as regards their destruction, it follows they were not wrecked in the common acceptation of the term, but that they went down in the open sea and left none to tell why. Numbers of grain-loaded ships disappear every year in the same manner. The consequent loss of life is appalling. The Tay Bridge disaster, in which seventy lives were sacrificed, sent a thrill of horror and grief throughout the land. Shall a greater number of sailors be sent to the bottom every month and no notice be taken of it, because the occurrence does not take place so near home. Are subscriptions to be raised for those dependent on the killed in a railway accident, and the sailor's widow and children left to starve and no helping hand held out to them, save only when the calamity is of such an awful magnitude that it appals even the most indifferent.

These founderings arise from the faulty construction of the steamer, want of precaution in loading, the dangerous nature of grain cargoes, the smallness of the crews. They are the more deplorable because they are preventable. The cargo steamers of the present day are coffins for British sailors; they are not ships, nothing but long boxes pointed at each end, decked, a funnel and two masts, so much iron put together to carry the greatest amount of dead-weight. And last, but not least, the greed of owners in loading these boxes so that they are at sea more like half-tide rocks than anything else. The destruction of property caused by their overloading is immense, but as long as these coffins can be insured the loss to the owner is often a positive gain, without caring or giving a thought about the men he sends to almost certain death. This will go on until the Government step in to prevent it. It is a fact that there are a class of shipowners risen up in the city of London and seaport towns of the United Kingdom that have no consideration for the lives much less the comfort of those who command and man

their ships, who will go on loading these steamers deeper and deeper every year; until they get so much into them and put them so low in water, that a few more tons would sink them in the dock; I have seen cargo steamers leave London so deep in the water as to be utterly incapable of contending with anything like a hard gale. Government has, of late years, to very great advantage interfered for the benefit of the Merchant Service; has compelled owners of ships to give the sailor more accommodation in the fore-castle, lime juice on a foreign voyage; has instituted shipping and discharging offices (not by any means perfect); compelled ships to carry lights and many other improvements, not one of which would ever have been carried out, had they been left to this class of owners, because all these things cost money, and that they will not part with even to save life. On the other hand, I know there are shipowners in London—to name one would be invidious; they are well-known far and near—who do just the reverse of these men, and try to the utmost of their power to do the right thing to those on board their ships, and who will not so overload the ships as to render them unseaworthy (and a ship is as much unseaworthy when overloaded as any other defect can make her). Let us thank God that there are men of this stamp who, fortunately for the British sailor out of London, control some of the largest steamship companies; may they have every prosperity with their ships they deserve; but with the men, who, for a little gain, load their ships so that their floating power—if not lost—is most seriously imperilled; who raise the load-mark year by year until it is almost on a level with the deck; men who turn a deaf ear to the cry of the widow and the fatherless, made so by their greed and love of money; men who care not for the lives they sacrifice in their endeavour to increase their gains: with such men as these we can have nothing in common. It is the duty of this Society as a Shipmasters' Society to hunt out these men, to expose them



to public gaze, as men who are a disgrace to the Christianity of the 19th century, and a blot upon the merchant ship-owners of London, or any other port.

Brother Shipmasters, this subject requires immediate action. It is in the province of the Marine Department of the Board of Trade, or I do not understand the meaning of the title of that department, and I think the subject cannot be too soon laid before Lord Sandon. I feel certain he will give it every attention. I call upon all shipmasters to have something to say upon this subject; it concerns all, whether afloat or on shore. All ought to do their utmost to strengthen the hands of the Committee of this and kindred Societies. The cry of the widows and the orphans of our brother shipmasters and sailors is ringing in our ears. The bodies of those who are now lying at the bottom of the sea are mutely but forcibly crying to us to stop, if possible, this monstrous and wholesale murder.

The causes of all this have been so ably and practically stated at our late meetings that it would be egotism of the worst kind for me to think I could in any way better or more fully state those causes, but I do most cordially agree with them in every way.—I am, Sir, your obedient servant,

HENRY FAITHFULL.

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#### PARLIAMENTARY INTELLIGENCE.

THE annual attempt to patch up the Merchant Shipping Act is about to commence, for we observe that the following named Honourable Members have given notice of motions relating to the Service:—

Mr. Plimsoll and Captain Bedford Pim, R.N., intend to draw attention to the shipment of grain in bulk; while Mr. Burt, whose labour would be better employed in striving to suppress strikes, is about to worry the Mercantile Marine with his old Bill to Extend the Workmen's Act to Sailors.

THE  
BRITISH MERCHANT SERVICE  
JOURNAL.

---

MARCH, 1880.—VOL. II.—No. III.

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THE EFFECT OF FOG ON THE COMPASS.

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IN your October number of 1879 is an article on the loss of the s.s. *Brest*, and the effect of fog on a ship's compasses. That fog has any appreciable influence over a ship's compasses has never been proved, and it would seem impossible to prove it by any means taken on board a ship whilst under weigh, or liable to move in any direction; but it might be proved, or disproved, by comparing observations, carefully taken with proper instruments, during fog and in clear weather, on board an iron ship securely moored.

However, at observatories in different parts of the world are erected very delicately-balanced needles, dipping and horizontal, whose vagaries are registered by means of photography, from year's end to year's end, and which mark the slight daily variations of the needle, which could be observed by no instrument on board ship, and, if they could, would be practically useless, unless ships could be steered to minutes of arc. If it were allowed that fog perceptibly affected the compass, it would do so as much in a wooden ship as in an iron one. But it may be said that fog does not directly affect the compass, but the magnetic condition of the iron of the ship, and this causes compass to alter. "With respect to variations of magnetic force, not periodic but irregular,

Faraday refers them to varying pressure, winds, currents, precipitations of rain or snow, &c., all of which may change the magnetic conduction of the air; and, in this way, the presence of a mere cloud near a station may do more than the rising sun." ("Harris on Magnetism," Part III., p. 127.) A change of temperature affects the magnetic condition of iron, as any one can see for himself by placing a bar of iron near a compass-needle, so that it is drawn out of its north and south position. Make the end of bar red hot, and needle will resume its position; as bar cools, it will again cause needle to deviate. In the course of the year 1876 there were twenty-four magnetic storms or disturbances observed at Mauritius, none of which were of much intensity. All of them, as far as is yet known, were co-incident with similar disturbances at the Melbourne Observatory. (Report for 1876.) What quantity is expressed by "much intensity"? for it is a question of amount and duration of disturbances, all of which are known to scientific men. Yet Captain Evans assures us that "no ordinary meteorological phenomenon appears to have any appreciable effect on the compass." (Admiralty Manual, p. 107.)

For ten years, whilst in command of three iron ships, I have kept a register of the deviations of their compasses. The registers have five pages for each point of the compass, with columns for date, lat., long., error of compass, variation, deviation, tack, heel, and remarks. I had them printed on purpose. I have the registers for this ship's two compasses for the last four voyages by me; I find that notwithstanding the difference of amount of iron in cargoes, with ship's head same way, lat., long., tack, heel, about the same, the deviations are as near the same as could be expected (seldom differing more than  $2^{\circ}$ ) from quality of instruments, and conditions under which deviation was ascertained.

As an instance of the slovenly, thoughtless manner in which some of the professional adjusters do their work, take this:—



bound to New Zealand, running the Easting down in  $48^{\circ}$  S., I found after compass almost useless ; on taking (as I thought) all the magnets away, found it had  $58^{\circ}$  E. dev., with head E. ; as ship's head was N.W. whilst building, her sub-permanent magnetism would give W. dev., head E. (I found afterwards this compass had  $-B\ 23^{\circ}$ ) ; as I could not believe that magnetism induced in stern-post, rudder-post, &c., would be sufficient to produce this large deviation, I was puzzled to account for it. Some time afterwards, on my having the binnacle moved further forward and raised, I found a magnet, N. pole up, screwed to inside after part of binnacle, completely out of sight, and this acting with the magnetism induced in stern-post, &c., both attracting S. point of needle in S. hemisphere, produced this large deviation. Now this was a most improper place to put a magnet, unless the adjuster on giving me deviation card had stated on it that he had done so. This is the only voyage on which I have had compass adjuster on board, and the ship being new the builder paid.

My plan for adjusting compass is this: I have steering compass as far forward (speaking of sailing ships only which steer by wheel close to rudder) and as high as is compatible with helmsman seeing distinctly; he can be raised by standing on a grating. Then in channel, or just outside, in from  $48^{\circ}$  to  $51^{\circ}$  N., a good opportunity is when waiting in Downs for a wind, I compensate the B and C of compass in ordinary manner by horizontal magnets, constructing table for remaining deviations; I never move these magnets, as ship goes S. deviation will increase, chiefly owing to alteration in induced magnetism of vertical iron aft; to counteract which I have magnet made to slide in a groove in afterpart of binnacle, S. pole up, held in its place by a pin underneath, then, with ship's head mag. E. or W., I slide this magnet up or down until compass points correct, then mark the latitude on side of groove, as ship goes S. magnet will have to be

moved higher; mark place on groove with lat. each time that magnet is moved, so that you may know next voyage where to put it. However, on an ordinary voyage to India where ship does not go further S. than  $41^{\circ}$ , I have never used this magnet, preferring to have considerable deviation in compass, rather than by altering magnets, to have to open, as it were, another account in register book of deviation; but going to New Zealand, or round the Horn, I have found it necessary. I have constructed tables of deviation for every  $10^{\circ}$  of latitude from  $50^{\circ}$  N. to  $50^{\circ}$  S., which are framed and placed in companion or skylight, where visible from the deck, and they need but little alteration voyage after voyage. After register has been kept for some time as above, a very fair idea may be got of heeling error, by comparing deviation, head near N. and S., about same latitude, on different tacks.

W. C. S.

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## A NEW PHASE OF THE CONFIDENCE TRICK, AS PLAYED IN NEW BABYLON.

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IN TWO PARTS.

### PART I.—THE TRICK.

|               |     |     |     |     |                                  |
|---------------|-----|-----|-----|-----|----------------------------------|
| BOGUS         | ... | ... | ... | ... | <i>The Confidence-Trick Man.</i> |
| BROWN         | ... | ... | ... | ... | <i>His Confederate.</i>          |
| WILLIAM       | ... | ... | ... | ... | <i>Brown's Clerk.</i>            |
| Captain JONES | ... | ... | ... | ... | <i>A Master Mariner.</i>         |

(SCENE: Office of Brown in Poverty Bay, a well-known locality in New Babylon; sitting in an easy chair at a desk, papers, &c., before him; builder's models on the wall; maps in convenient places; office clean, and free of rubbish.)

BROWN (*singing in a low and plaintive voice*):—

O come into my parlor, said the spider to the fly,  
For 'tis the prettiest parlor, that ever you did spy.  
Will you, will you, won't you, won't you,  
Come in, my pretty fly.

(*Enter WILLIAM.*) Sir, Captain Jones has called, and is waiting in the outer office; here is his card.

BROWN: Let him wait. Go. (*Exit WILLIAM.*) To wait will make him more anxious. He wants a ship badly. Has a wife and six children. I cannot understand why these skippers marry; away from their wives and children nearly all the time, and continually risking their lives for two hundred pounds a-year. What do they mean by having wives and children? There ought to be a law against such folly. If Bogus will come in during the morning, we shall catch this Jones. We want the money badly; cannot carry on this game without it. Where does all the money go to? I seem to be always short. Can William be helping himself? Jones wants a command; we give him one, on condition that he puts money into the ship we are interested in. Does he expect that if we once get hold of his money he will ever see it again in any shape? Not if we are awake, and I think we are. We will stick to that. We give him a year's happiness in command of a fine ship and then kick him out, find another captain who also puts money in. Jones is the third we have hooked; seven hundred of Jones will not be a bad beginning for this ship. We give him £150 a-year as captain, that is something; liberal, very, considering captains are now so cheap. He goes the voyage; ship comes home; we make up a balance-sheet, bring Jones in debt, kick up a row (that is easy enough, any pretext will do); demands the balance-sheet; give it to him, hope he will be able to make it out; he cannot go to law having no money; we laugh and grow rich; if we can but get his money by our confidence



trick, we can repudiate the debt, and swear we never received it. Can this be called swindling? Bosh! it is business; a man must take all that comes in his way, always provided he can get it.

I can and do, make a good living by my wits;

Money I must have, and Jones's just now fits.

(*Rings a bell. Enter WILLIAM.*) Tell Captain Jones to come in.

(*Exit WILLIAM. Enter Captain JONES.*)

BROWN: Good morning, Captain Jones, glad to see you; all well at home?

Captain JONES: Quite well, thank you; how are you and yours?

BROWN: Well, I have much to be thankful for, they are all well, I am pretty well, but worried and bothered in these hard times; no business doing; it is hard to get along. I might do much more, but I cannot soil my fingers by a dirty or mean action. I cannot do as many do, my conscience is too tender. I am an honest man, and that keeps me poor; but my reward is the amazing peace of mind I enjoy. It is beyond expression. Yes, my friend, when I lay myself down in bed at night to sleep, I can do it peacefully and calmly; my conscience does not trouble me.

Captain JONES (*smiling*): What, never?

BROWN: Well, hardly ever.

WILLIAM (*in outer office, to himself*): Right you are, my boy, when your conscience troubles you it will be a bad day. Oh my—

Your conscience is seared; it is quite thread-bare worn;  
If you ever had a conscience, to tatters it's torn.

BROWN: Stop that talking in the outer office. I shall have a word to say to you, my lad, to-night. (WILLIAM *collapses for the time.*)

Captain JONES: I have known you for many years, and believe all you say. If I thought you were not an honest

man, I should not come to you about my little investment. I know you will give me good advice, and take no advantage of me. £700 is all I have.

BROWN: Indeed I will not; I will do my utmost for you. I can say in the beautiful language of the poet—

“ My thoughts and actions are sincere,  
My conscience as the noonday clear;  
In every way I try to do my best,  
Eat, drink, work hard, and take my rest;  
No scandal e’er is laid at my front door;  
I am not rich, but happy being poor;  
The little I have to take, I take with smiling face;  
I envy no man, and I do not go the pace.”

I forget the rest of the quotation; but is it not beautiful? What sublime language! What high and ennobling thoughts! —(Captain JONES *looks as if he did not quite see it.*)—But this is not business. What can I do this morning for you; my time is valuable; but I have half-an-hour at your service?

Captain JONES: I have already told you I have £700 to invest in a ship, provided I get the command; it is all I have. The future of my wife and children depend upon its being well invested. I come to you, as my friend, to ask you if you can do anything for me in the manner I mention. I have been two years on shore doing nothing; all my hard-earned savings are dwindling away. I wish to prevent this £700 from following. If you can help me, do, for Heaven’s sake. If I lose this money by a bad investment, my wife and children must starve. I must have employment; if you can help me, do; I want help badly. (Captain JONES *here breaks down.*)

BROWN (*sniffing*): Well, business is business; I do know of something; but before I give any information I must have ten pounds paid down, and if you get the ship 20 per cent. of the first year’s wages. Any little thing you can bring me

from foreign countries I shall be pleased to accept, but this is not the bargain, only a contingency. What do you say?

Captain JONES: I will not say your terms are harsh, but are they not a little hard, considering the wife and children dependent upon me?

BROWN: I am sorry you think so; how am I to live unless I make my business pay me; my time is my money. Will you accept my terms?

Captain JONES: I must. I do not know any one but you that can so well assist me.

You have said you're my friend, I believe you are true;  
I shall lose faith in myself, if I'm deceived in you.

BROWN: Bogus, a friend of mine, is about buying a ship. I have spoken to him about you. He says, £700 is a small sum to invest in a ship, and so it is. Had you two thousand I could do the thing easily for you. Yesterday I put a friend into a large steamer with just that money; he gave me £60, just double what I ask you; steamer belongs to eminent people in the North Pole trade, had the Siamese Government contract for supplying the White Elephant with provisions; sharp lot, did the Siamese completely; marked one end of a cask flour, the other end peas, and so on; only did it once; they did not consider it right to do it again; have not done much since.

Captain JONES: Do you think such conduct right?

BROWN: I never judge other men's actions; I mind my own affairs. I see things done every day that I cannot approve, but we are all liable to error.

(*Enter WILLIAM*): Sir, Mr. Bogus has sent word he will be with you in half-an-hour.

BROWN: Now then Captain Jones, is it to be a bargain? Do you agree to my terms; if so, let me have the ten pounds.

Captain JONES: Yes, I agree; here are ten pounds. I suppose my note of hand for the £20 when I come home will do?



BROWN: Yes, I will oblige you so far ; from any one but you I should have demanded payment before leaving New Babylon. You can now go into the outer office and await the arrival of Mr. Bogus. (*Exit.*)

(*Enter BOGUS, the Confidence-trick Man. BROWN makes the sign of silence by placing the first finger of his left-hand along his nose, closing the right eye, and pointing with his right-hand to the door of the outer office.*)

BOGUS (*speaking in a low and subdued tone*): I have got the ship on tick ; twelve months credit. Before that time she will go down. She is old, but that's no matter ; her rivets are inclined to fall out ; her plates are weak. Who cares ? £100 shares ; see prospectus. Many shares are sold. In New Babylon ? Oh, no ; the Babylonians are too sharp ; but in the country ; 5 parsons, 6 single ladies of a certain age with lots of tin, 8 medical men in good practice, and many others have taken shares. Not one knows anything about a ship, or how accounts are cooked. Altogether, in three days, one hundred shares are taken up ; the game is ours. While in the country you puffed it well ; money is flowing in. Do they think they will get the 20 per cent. dividend promised ? I think not ; they may get calls. The next thing is to insure her well.

BROWN: Leave that to me, that little trick I'll do ;

Jones is inside, I'll introduce him now to you.

(*Rings a bell. Enter WILLIAM.*) Tell Captain Jones to step in here.

Captain JONES: Good morning, gentlemen. (*To BOGUS*): Happy to make your acquaintance, Sir.

BOGUS (*aside*): First sight is often very pleasant to the view ;  
Six months after, that first sight we rue.)

I have just purchased a ship. My friend Brown speaks very highly of you as a master mariner.

I want a captain, an uncommon want

When every day brings forth a new one.

One, did I say? hundreds monthly now are made  
By examination, according to the Board of Trade.  
Every week the list grows longer still,  
And still they come, with no commands for them to fill.  
What is to be the end of it? Captains I can get a hundred,  
With merchant captains, I my ship can man,  
From stem to stern.

The man I take, must be honest, good, and true,  
Experienced, sober, steady, and of years a few.  
Not given to theatres, parties, balls, and routs,  
But grave and solemn, seriously devout;  
One that will look after my interest keen,  
And keep my ship in order, smart and clean;  
Above all must in me all confidence repose.  
I'm worthy of it, as my friend, Brown, well knows;  
This is a man according to my mind,  
And him in you, I hope and trust to find.  
Are you the man to suit?

Captain JONES: I'll do my best in all that you require; I'll serve you truly, no man can do more. Rough am I in speech and little used to flowery flowing words. That I'm a British sailor is my only boast; I'll do my duty as a British sailor should. These testimonials that I hold are good; they are from former owners. Here is my extra-master's certificate from the Board of Trade.

BOGUS: These testimonials are all that I desire, the extra certificate put it in the fire, for aught I care. Can you put money into the ship; how many shares can you take up?

Captain JONES: I have £700 to invest for a command, and shall be happy to put it into your ship on reasonable security.

BOGUS: The sum is small. Security! I do not like the word; it sounds of doubtful thoughts which should not be, Mutual confidence between you and me must be our rule; on no other basis can I negotiate with you. Brown, my friend, is not that true?

BROWN : Confidence misplaced, is confidence misused ;  
Confidence once shaken, is confidence abused.  
We must have confidence, or we cannot business do,  
Confidence is necessary, betwixt him and you.  
Confidence in you is placed, by giving you the ship ;  
Confide your money then to him. That's just my  
tip.

Captain JONES : Well, Sir, I leave myself in your hands, I have confidence in you, and will entrust you with my money.

BOGUS : That's right, all doubts are thus displaced. The ship I have for you is the *Integrity*. You are the captain. The pay I give is ten pounds per month, and one per cent. on the nett earnings ; you shall double your money in the first year.

The confidence you place in me, I thus return ;  
Confidence must be mutual to make the wheel of fortune turn.

Captain JONES : Here are £700 in bank notes. I take seven shares. I suppose I may consider myself in command from this date, and, on sailing, can leave my wife an order upon you to receive £10 per month until my return, which you will kindly pay her on the first of every month. I must say I should like an agreement with you, and also a receipt for my money.

BOGUS : Your request as to the money for your wife shall have my careful consideration. Brown and I are well-known city men. Go make enquiry. You shall find none higher stand in New Babylon. You must not speak to us of bonds and legal documents ; our word is our bond, never broken yet.

BROWN : Confidence in us, we both demand and seek.  
Do you regret your bargain ? If so, speak ;  
It is not now too late. If you regret your deed,  
Do not return to me, no matter what you need.



Good; you agree to let all stand. Well, be it so.  
 We will to other matters: you on board can go.  
 Here is Bogus' order, to take supreme control;  
 She sails next week with notions for the South Pole.

*(Exit Captain JONES to the Docks.)*

BOGUS and BROWN *(after dividing the money in two equal parts)*  
*sing:—*

The thing is done, and now to share the swag.  
 The confidence trick is good the money thus to bag.  
 No confidence between us; was ever such a flat?  
 I'll take this half; you shall pocket that.  
 In face we're honest men, but rogues at heart.  
 All men are actors, we only play our part;  
 Our little game will not be long, it cannot last,  
 Let's go it while we may, and then forget the past.  
 Vive le diable! let him our master be,  
 What comes after is naught to you and me.

PART II.—THE FINISH OF THE TRICK. END OF BOGUS  
 AND BROWN. MORAL.

*(Former Characters. MRS. JONES and HANGMAN.)*

*(About a year is supposed to have elapsed. Captain JONES has just returned, and goes to BOGUS's office. BOGUS is sitting in a large arm-chair; office luxuriously furnished, Brussels carpet on the floor, polished mahogany writing table and secretary, several good prints of ships and three fair oil paintings (sea pieces) on the walls. New Babylon Directory on the table, last telegrams from Stock Exchange, &c., &c. BOGUS discovered reading "Town Talk," several penny dreadfuls on the table, covers them with the "Times.")*

Captain JONES: Good morning, Mr. Bogus; I have returned in health, and hope that you are well. I trust my actions have your approbation, and that the voyage will prove remunerative to all concerned.

Bogus: Glad to see you; am very busy at this moment, most important matters to arrange. Contract with Government to take all Irish to Zululand and bring the Zulus back. Shall then have the Zulus nearer to control; never will be quiet as they are. Cetewayo is to be made an English Royal Highness, and re-instated on his ancestral throne. Will see you some time next week; in the meantime the cargo now demands your care, see it rapidly discharged by my stevedore. Good morning.

Captain JONES: I am not suspicious, but methinks I see in Bogus a warm friend cooling. Before I sailed he was all smiles and courtesy, but has now grown sharp in look and short in word, barely civil, too much ceremony. What need has he of all this change to me? I am a plain, blunt sailor; I hate your oily-tongued man who, like a sneaking hound that dare not fight, snaps and yelps at all dogs smaller than himself, but crouches voiceless to the earth when bigger dogs appear; or, like the serpent, saved from the killing frost, recovers strength and life, then bites the hand that rescued it from death. There are rumours in the City, and these rumours grow; all is not as it used to be between him and Brown. They go no more together to take the frequent glass of sherry and a biscuit. Michaels knows them no more in company as in former days; at Toby's they take not their chop and bitter ale at the same table; they are still together at the Golden. If there is a split in friendship they are yet one in business matters. I do think Bogus is not an honest man, at any rate he does not keep his word; he refused after six months to let my wife have any more money. Stay, what thoughts are flashing through my brain! Have I been mad? Have I by confidence been sold, duped, betrayed? Has Brown played into Bogus's hands to get my gold? No, it is impossible!

There cannot be on earth so dark a devil;  
In friendship guise, to do me so much evil.

(*BOGUS's Office, present BOGUS, BROWN, and Captain JONES.*)

BOGUS: Well, Captain Jones, the balance-sheet is now made out. I am sorry to say the ship has lost money; in fact, has done very badly. We do not blame you; nevertheless, you are much in fault for this result. We do not sail ships to lose money by them. Most reluctantly I am compelled to supersede you in command. My co-owners have demanded this. Another captain is already appointed in your place, and is now down at the shipping office engaging the crew for next voyage. I trust he will do better. He puts £1,000 into the ship.

Captain JONES: I have done my best; I have done as well as any man could do, against low freights, foul winds, and long-continued calms; my interest was at stake as captain and a shareholder. I have been away eleven months, and grossed £9,000. There must be something considerable left out of that, over and above the necessary charges and expenses on the voyage. It cannot be that all has gone in these; it is most absurd to tell me so.

BOGUS: Stop, you have said enough. Your first words have given me pain. You have condemned yourself; in command of this ship you cannot now remain.

If I have had your best, there's only this to say;  
Bad is your best, your best not worth your pay;  
Your best is bad, then bad your best must be,  
You're not the man to suit; your best will not suit me.

Captain JONES: You wrest my words out of their true meaning. You have long determined this. I shall make no appeal to you to re-consider your decision; I have lost all confidence in you as an honest, upright man; you have broken your word to me. I demand the balance of my wages, and a receipt for the money I put into the ship, so that I may sell my shares and wash my hands of you. Will you buy them at the present market rate? Iron has gone



up since you purchased the *Integrity*. They ought at least to bring me my money back.

BOGUS: Your account with me, Brown has made out you are much in my debt. The ship having made no money, you have no percentage to receive. There are unaccounted for in your ship-expenditure book—110 lbs. of salt beef, 92 lbs. pork,  $\frac{1}{4}$  tin of preserved potatoes,  $\frac{1}{2}$  tin of dried herrings, 4 lbs. of soap, 3 lbs. of tallow candles,  $\frac{1}{2}$  a jar of jam,  $3\frac{1}{2}$  lbs. of cheese, 3 lbs. of salt fish, 10 lbs. of flour and 2 pints of split pease, 2 hanks of twine,  $3\frac{1}{4}$  yds. of No. 3 canvass and a sewing-palm. The stock of rope is rightly kept, the expenditure tallies with the quantity put on board; you had fresh meat in the saloon every day in harbour, and sometimes fowls. I only allow fresh meat to you on Sunday. This you must pay for; all this is charged against you; your ship is twelve hundred tons. You had sixteen men on board, all told; that was four men more than I allow. You must pay their wages for the entire voyage; the amount is charged to you. You took a pilot from the *Lizard*. I never pay such a charge as that. I insure my ship, that's quite enough for me to do. Brown, hand him his account. The balance against you is £114 15s. 6 $\frac{3}{4}$ d., which you will please pay at once. Say, £114 15s. You need not mind the 6 $\frac{3}{4}$ d. I will give that. As to shares, what shares? I never heard of any, did you, Brown?

BROWN:

Not I, indeed. Did he say shares? Shares in what, And where? Turkish? Well they are below par. Russian things there look blue, I would not lend the Czar A single English coin; Peruvian or Montevidean; Or has he gone a buster like many more in Egyptian? Well surely it is most strange, but true, when men go mad, They always think they are possessed of things they never had.

Captain JONES: Let there be an end to all this folly. I see now with whom I have to deal. Two plausible, smooth-spoken, lying knaves. Brown, you are the biggest scoundrel.

BOGUS: Brown, take note of that; and mark you, write me down a lying smooth-tongued knave. An action for defamation here will lie.

Captain JONES: Scoundrels, cease this interruption, let me have my say.

BROWN: I glory in being what I am. O let him have his say; what can he say when he has had his say? Nothing but what we say every day.

Arcades Ambo, *id est*, blackguards both, most true;

He cannot say worse than this of me and you.

Captain JONES: Your lying balance-sheet I now demand; my private account with you is in my hand. Both shall to an accountant go; he shall make you show your voucher. If there is justice in New Babylon I will have it, and make you hand over my shares or my money.

BOGUS: Go, do your worst or best, I care not which, we never had your money for the shares you mention. If you bought shares in the ship, show me my receipt: I will acknowledge it. You have no receipt from me, therefore you have no claim.

Captain JONES: O false-hearted wretch, doubly sunk in sin. I'm almost mad; my friend I've trusted and have found him false.

BROWN: This a respectable office, why make you such a din.

William, go call a bobby, he shall run you in.

You're mad, or drunk, a fool, or something worse,

Go outside, on the pavement, there you may curse,

But not in here.

BOGUS:

Two captains have already gone to law for right;

My purse was longest; theirs soon empty quite.

I gained the day in spite of truth and sense;

I'll ruin you, if law you once commence.

Go seek your proofs, maybe you'll find them on the sea;

'Till that time comes, no fear shall trouble me.

## INTERIOR OF CAPTAIN JONES'S HOUSE.

(JONES, sitting in his private room loading a revolver. Enter Mrs. JONES, looks for a moment with horror at her husband, then throws her arms round his neck.)

Mrs. JONES :

My husband, raise not your hand to take your life ;  
Think of your children dear, and of me your wife.  
Can you forget the vows you at the altar made ?  
To love and cherish me, while on earth you stayed.  
Have I been wanting in affection, in my love to you ?  
Think of your children, who this mad act must rue.  
Bear with these ills, stand up a man, whate'er betide,  
O meet not your God, a coward suicide.  
Dare you appear before the great white throne,  
Uncalled, unsummoned, standing there alone,  
A self-murderer here, there self-convicted stand ?

Captain JONES :

My ever-loving, constant wife, you do mistake my mind,  
I dare do all that becomes a man, self-murder is a most  
Unmanly deed ; a coward's act.  
I'll cleave to you in poverty, in wealth,  
For better and for worse, in sickness or in health.  
That villain Bogus and that scoundrel Brown,  
I'll die content when I have shot them down—  
This pistol is for them.

Mrs. JONES :

My husband, dear, bethink what you do,  
Your anger's just, but vengeance is not for you.  
Leave them to God ; I now can hear Him say,  
“ Vengeance is mine, and I will sure repay ! ”  
Say, by your hand both of them are slain,  
You are a murderer, stamped with the brand of Cain !  
Your life's the forfeit to God's broken law.  
Blight not your children's lives by such a wicked deed ;  
God's aid is nearest when sorest is our need,



Think, think on me—would you destroy your wife?  
 Your life and mine are one, then will you take my life?  
 Our union in love did make our two souls one;  
 Only by God's decree should that sweet union be undone.  
 Put by that weapon; and, by me be led,  
 Make me not a widow, doubly widowed!  
 Widowed of husband, hope, my love misplaced,  
 Your children fatherless, and your name disgraced!  
 Oh! my husband, beside all this, how great the sin  
 Is hatred to our brother, murderously indulged in?  
 How can you pray?—your sins may freely forgiven be,  
 When you your brother hate with such intensity!  
 True, they have wronged you, broken their plighted oath,  
 Be to yourself true, be Christian and forgive them both.

Captain JONES:

You do recall my better feelings—I have sinned.  
 My better half; my half that's nearest heaven,  
 To me in mercy surely thou hast been given,  
 In my brother's blood I would have slacked my rage,  
 Destroyed my soul, blackened my fair life's page.  
 O God, I thank Thee, that Thou my hand has stayed;  
 In penitence and grief I low before thee kneel;  
 I have sinned, am sorely stricken; Thou alone canst  
 heal.

*(Enter WILLIAM, making Catherine-wheels after the manner of boys in Black Church Road, and standing on his head in the centre of the room, and clashing his heels together.)*

Captain JONES:

What means all this, what is the wind that blows?  
 Will you get off your head, and stand upon your toes?  
 What is the news you bring?

*(WILLIAM stands upon his feet.)*

WILLIAM:

Good news I bring;  
 To the tune of "The Old Oak Chest" my story I'll sing.

They taught me to lie, to cheat, and to rob—  
 'Tis two for his heels, but it's one for his nob.  
 They taught me to swear, into all wickedness led—  
 I don't like the black, I'll go two bob on the red.  
 They taught me their trade, that swindling was fair—  
 Fifteen two, fifteen four, and two knaves are a pair.  
 They ruined my morals, their's were not over nice—  
 I knock the balls about and I handle the dice.  
 A bigger young blackguard there's not on the town,  
 And for this I'm indebted to Bogus and Brown.

“ Catch a weasel asleep ” is a saying of old ;  
 I've heard that old sayings are better than gold.  
 “ Like master, like man ” is another old saw ;  
 I can't think of a third, but I know there are more.  
 They robbed all they could, I robbed them in return ;  
 They taught me the way, 'twas easy to learn.  
 You have done me much kindness, that now I repay ;  
 Here, take all your notes--you must not say nay.  
 I've four times as much in a bank in the town ;  
 I've stolen it all from Bogus and Brown.

The six single ladies are tearing their hair ;  
 Their money's all gone, they are dumb with despair.  
 The five parsons look foolish ; they find it's no gammon ;  
 You can't serve the Lord, and stick to your Mammon.  
 The doctors are cursing their luck that's so ill,  
 But they'll make it up by potion and pill.  
 Bogus has smashed, gone clean up the spout.  
 Brown, by his smash, is sixty thousand pounds out.  
 And this is the news that now rings through the town,  
 That Brown has killed Bogus, and soon they'll hang Brown.

*(WILLIAM disappears gradually, making Catherine wheels ; when last heard of he was at the Land's End, starting for New Zealand.)*

*(BROWN again appears, and for the last time ; marvellously ill-favoured, his arms pinioned, and accompanied by the Hangman, they ascend the scaffold and stand on the drop.)*

HANGMAN :

Confidence in me you cannot now refuse ;  
 Just put your head into this well-soaped noose.  
 Confidence well placed is confidence well used,  
 Confidence ne'er shaken is confidence unabused ;  
 We must have confidence whate'er we do.  
 Have confidence in me and I will put you through.  
 Stand steady on the trap, that bolt I'll slip,  
 You'll go straight down. That's just my tip.

He pulled the bolt, feet foremost down Brown flies ;  
 The rope it tightens, a thousand stars dance in his eyes ;  
 Ten thousand thunders are ringing in his ear,  
 A horrid, nameless dread doth his black heart tear ;  
 A groan, a struggle, some half-choked sighs ;  
 He's dead ; he lived a villain, and a villain dies.

#### MORAL.

Honesty's the best policy, is a saying of old,  
 In its true meaning, it is better than gold.  
 We are tried in this life like gold in a fire ;  
 This life's a probation for the one that is higher.  
 Honesty is the best policy, I am quite sure it is so ;  
 All men in New Babylon are not BROWN, BOGUS & Co.  
 If you've money in the bank, well, there let it lie,  
 To double it in a ship, take advice, don't you try.  
 Ask Darwin or Muller, they say in creation it's a law  
 That the small one can't live where the big puts his paw.  
 To put you on your guard I have done my best,  
 Then just take my tip. This is signed

SCRIPTUM EST.



## THE COST OF THE WRECK COMMISSION.

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WE have to call the attention of our readers to the Return relating to the Board of Trade Inquiries asked for by Mr. Gourley, M.P., in June, 1879, which discloses the following interesting and important facts:—

The time embraced by the Return is from 29th September, 1876 (the date of the appointment of a Wreck Commissioner), to the 31st December, 1878, a period of two years and three months; although the Commissioner did not begin to hold inquiries till October 30, when the first was held at Westminster on the collision between the *Dinorah* and *Dorunda*. The Return, therefore, includes a month's more inquiries held by magistrates and justices (amounting to about seven in all) than it should do. This does not, however, materially affect the result, by which it appears that during the above time there were 85 inquiries held by the Wreck Commissioner, occupying 204 days, or an average of 2·4 days on each inquiry; and 267 inquiries held by Magistrates and Justices of the Peace, occupying 947 days, or an average of 3·5 days on each. The certificates dealt with by the Wreck Commissioner were 40 in number, or 47 per cent.; those dealt with by the magistrates were 154, or 58 per cent. It appears, therefore, that inquiries have been got through with great expedition by the Wreck Commissioner, and that either he must have been some 10 per cent. more lenient, or that the casualties he had to deal with were caused more by the dangers of the seas and unavoidable accidents.

So far the difference between the two sets of inquiries is comparatively trifling, and there is not much to be learnt from the report. It is no doubt of importance to shipmasters that they should not be delayed a day longer than necessary whilst attending these inquiries. At the same time

it is of greater importance that the inquiry should be thorough, and that no evidence be omitted throwing light on the case; and we fear that it has been by some curtailing of evidence that the above economy of time has been attained. It certainly has not been by shortening the addresses of counsel, or the orations delivered in Court from the Bench.

But it is when we turn to the figures showing the expense of these inquiries that the information supplied by the Return becomes positively startling. We find that the 85 inquiries held by the Wreck Commissioner, which occupied 204 days, cost the sum of £18,185, being £214 per inquiry, or £89 per day; whereas the 267 inquiries held by the magistrates, occupying 947 days, cost £29,293, being £110 per inquiry, or £31 per day; and when we come to examine the details of the separate expenses, we find that this monstrous difference is brought about chiefly by the expenses peculiar to the Wreck Commissioner and his office. We find that the law charges in his Court are £109 per inquiry, or £45 per day, as against £72 per inquiry, or £20 per day in the other Courts, a very considerable difference, and an increase in the legal expenses of inquiries, by which we do not believe either the public, the shipowner, or shipmasters have benefited in the slightest degree. But this increase in the law charges to which the Board of Trade has been put by the practice of the Wreck Commissioners' Court is as nothing when compared to the increase of the cost defrayed by the Treasury for the other expenses of the Courts. We find that the costs of the Wreck Commissioners' Court (other than law charges) amounted to £8,900. which includes £4,084 for the salaries, travelling and other incidental expenses, of the Wreck Commissioners and his officers not being Assessors, being at the rate of £105 per inquiry, or £44 per day, as against £38 per inquiry, or £11 per day for the costs of the other Courts (other than

law charges). As the fees and expenses of the Assessors employed are the same per day in one Court as in the other, and as they are included in the £11 per day which is the cost of the Magistrate's Court, it follows that the whole of the difference between £34 and £11 in the costs per day of the respective Courts is caused by the expense attached to the office of Wreck Commissioner. This is paying dearly for our whistle with a vengeance! We subjoin a tabular statement showing the above, which we recommend to the consideration of Mr. Gourley and others interested, and we draw attention to the fact that had all the inquiries during this period been held by the Magistrates and none by the Wreck Commissioner, the cost of them would have been less by £8,840; and, on the other hand, had the 267 inquiries held before Magistrates been held by a Wreck Commissioner the additional expense would have amounted to £27,768.

ABSTRACT OF PARLIAMENTARY RETURN (332) RELATING TO  
BOARD OF TRADE INQUIRIES, HELD FROM 29TH SEPTEMBER,  
1876, TO 31ST DECEMBER, 1878.

BY WRECK COMMISSIONER.

85 Inquiries occupying 204 days.

| Wreck Commission.<br>(Treasury.)               | Law Charges.<br>Board of Trade. | Total Expense of<br>Inquiries.  |
|--|---------------------------------|---------------------------------|
| £4,816* Court<br>4,984† office<br><hr/> £8,900 | £9,285                          | £18,185                         |
| Per Inquiry, £105<br>,, Day, 44                | Per Inquiry, £109<br>,, Day, 45 | Per Inquiry, £214<br>,, Day, 89 |

\* Including the fees and expenses of the assessors and costs of inquiries other than law charges.

† Salaries and expenses attached to Wreck Commissioner's office.



BY MAGISTRATES AND JUSTICES OF THE PEACE.

267 Inquiries occupying 947 days.

| Wreck Commission.<br>(Treasury.) | Law Charges.<br>Board of Trade. | Total Expense of<br>Inquiries.  |
|----------------------------------|---------------------------------|---------------------------------|
| £10,152*                         | £19,140                         | £29,293                         |
| Per Inquiry, £38<br>,, Day, 11   | Per Inquiry, £72<br>,, Day, 20  | Per Inquiry, £110<br>,, Day, 31 |

## THE NEW RULES FOR THE NAVIGATION OF THE THAMES.

THOSE who have followed up the subject of the navigation of the Thames will regret to learn that the Conservancy Board, notwithstanding the serious objections offered to their proposed Bye-Laws, have determined to carry them out in the original form, with this exception, that in a fog vessels are not to be required to anchor, but may proceed at very moderate speed. It is strange that after so many months consideration so little should have been done to promote the public safety, and we must now look to the Courts, by their decisions, to encourage that which is the only safe course, viz., a starboard-side rule.

The following article appeared in the *Saturday Review*, and proves that there are others who, like ourselves, view the new Bye-Laws with dissatisfaction:—

“In the year 1878 the total number of sea-going vessels which arrived in the port of London was 47,728, and their aggregate tonnage was 9,415,873 tons. In 1877 the number of vessels was 47,691, the tonnage 9,706,180; and

\* See footnote, page 133.

in 1876 the number of vessels was 44,822, the tonnage 9,211,889. These figures, to which we have previously drawn attention, show not only the enormous magnitude of the Thames traffic, but also that during one year of great depression it considerably increased, and that during another year of equal depression there was only a very trifling decrease. With anything like a revival of trade, this huge traffic, which, to use the language of the Thames Committee, 'has almost outgrown the capacity of the river,' will be largely augmented, and will outgrow it altogether; and as, unfortunately, the narrow and winding channel of the Thames cannot be widened or made straight, the navigation of it, already extremely difficult, will be even yet more difficult and dangerous. It is abundantly clear, then, that everything should be done that can be done, by the promulgation and enforcement of well-considered rules for the navigation of the river, to diminish the chances of collision, which are now great, and are likely to become greater. Important, however, as is the question of how to regulate the navigation of the river, it might never have attracted notice had it not been for the collision between the *Bywell Castle* and the *Princess Alice*. The result of that catastrophe was the appointment of the Thames Traffic Committee, who heard a large amount of evidence respecting the navigation of the river, and in their report made a series of elaborate suggestions for its better management. Of some of these suggestions the Conservators have now availed themselves. In October last they provisionally issued rules which were for the most part identical with the principal recommendations of the Committee. Objections to these having been heard and considered, some alterations have been made, and the regulations are now published in what is apparently their final form. It is still necessary that they should be sanctioned by an Order in Council, but probably this sanction will be given as a matter of course.

“It was not a little remarkable, as indicating the carelessness with which the Conservators have throughout treated this very important matter, that, when they first gave forth their rules, they did not take the trouble to make a very simple statement in comprehensible language. They had to say that certain by-laws with sub-sections were to come into force and to take the place of others which were to be repealed; but to say this in intelligible sentences was too great an effort for them, and they contentedly published a preamble from which no man could gather which by-laws were to come into operation and which were to be done away with. Now—with the aid presumably of some law-writer or copying-clerk—they have remedied this blunder, and have contrived to express themselves clearly. For the rules themselves they are but in a small degree responsible, since they have, as has been said, accepted for the most part the suggestions of the Committee, and have made only the alterations above referred to and some others of no very great importance. Judging from the specimen of drafting with which they have favoured the world, it may certainly be held to be fortunate that they did not attempt to make large changes in the code of by-laws prepared for them; but it is much to be wished that they had been consistently true to their well-earned character for inertness, and, contenting themselves with small alterations and re-arrangement, had not tried to exercise their own judgment further. Unluckily they seem to have thought it necessary to show that they were not mere registrars of the decrees of the Committee, and that they could to some extent form opinions for themselves. Accordingly they have struck out the rules which that body proposed for the navigation of dumb barges—*i.e.*, barges managed by oars. Their self-assertion in this case is greatly to be regretted, inasmuch as the necessity for regulating this traffic was shown by evidence which was perhaps stronger than any other adduced before the Committee.



“With this unfortunate omission, however, the responsibility of the Conservators in respect of the code which is shortly to become law virtually ends, they having merely done what they were bid. As the Committee who are really answerable for the new rules included some highly competent men, who undoubtedly took much trouble with their work and heard a great deal of evidence, it might well have been expected that the regulations which were the result of their long and careful consideration would be satisfactory ones. On a previous occasion, when commenting on their Report, we endeavoured to show that this expectation had not been fulfilled, and that there were good reasons for holding that some of the proposed rules were bad ones, and would do great harm. Now that it is officially announced that they are shortly to become law, no apology is necessary for again drawing attention to the evil which may be caused by them. The figures which we have quoted show the unparalleled magnitude which the Thames traffic has attained; and it is most urgent that some heed should be given to a series of rules which may make the conduct of that vast traffic even more dangerous than it is now, and may ultimately drive one class of vessels from the river altogether. We believe that this may not improbably be the result of the code which is now to come into force. There is good ground for believing that its authors have been guilty of grave errors both of omission and commission. They might have laid down for the government of the river a broad and simple rule which would have deprived wrongdoers of all excuse, and could be misunderstood by nobody. This, we need hardly say, is the starboard or right-hand side rule, according to which steamers going down stream keep to one side of the river, those going up to the other. It was recommended by the tribunal which reported to the Board of Trade, and was considered by the Committee. With one dissentient they decided against it, on the ground of certain objections to it which were enumerated in their Report. To

any general rule regulating such navigation as that of the Thames there are certain to be objections, and it would be futile to deny that those put forward by the Committee had considerable weight ; but, forcibly stated as they were in the Report, it was scarcely possible to avoid the conclusion that they were more than counterbalanced by the great advantages of this rule, which, if properly enforced, could hardly fail to diminish the chance of collisions. The true cause of its rejection by the Committee was probably the inveterate dislike which Englishmen have to a uniform and comprehensive act of legislation. It is to be observed that one of the regulations suggested by the Committee, which is identical with the rule for vessels meeting at sea, will to a certain extent make it expedient for ships going down stream to keep to the right-hand side, and for those going up stream to keep to the left ; but it has the advantage of not making this legally necessary, so that captains and pilots who navigate their vessels badly will find it far easier to defend their misconduct than they would if an imperative law existed which could not be misinterpreted. Perhaps, however, it was too much to hope that English legislators would recommend a broad and simple enactment ; but certainly it might have been hoped that they would avoid positive error, and would not lay down rules which are likely to cause collisions. Unfortunately it seems by no means improbable that this is what the framers of the new code have done. Many of their regulations are taken from the new rules for preventing collisions at sea, and in one case certainly they do not seem to have realized what effect a rule intended to apply to the navigation of the open sea may have when it is applied to the navigation of a crowded river. By the new code steam-whistle signals are largely introduced. A captain may intimate by one short blast of the steam-whistle that he intends to direct his course to the right, or by two blasts that he intends to direct it to the left. Whether the use of these

signals will tend to make accidents at sea less numerous it is not necessary now to consider. That it will do so in the Thames is, to say the least, extremely unlikely. The framers of the rules seem to have fallen into the very general error of thinking merely of the case of two vessels approaching each other, and forgetting that many other vessels may be close to them. With several steamers very near him a captain may be utterly misled by a whistle signal intended, not for him, but for another commander. In one of the Thames reaches there are sometimes a dozen steamers at once, and it would be hard to exaggerate the confusion and danger which may be caused, when on a dark and hazy night bewildering whistle signals resound in all directions. This grave objection, moreover, is not the only one which can be urged against the provision authorizing the use of these signals. It will certainly serve as a safeguard for the delinquents, already sufficiently numerous, who will not obey the rule of the road; but this is not astonishing, for the new code seems in part to have been framed with the express purpose of giving scope to ingenious defences.

“ If, however, those who are responsible for it had merely applied the new regulations for ships at sea to the navigation of the Thames, they would undoubtedly have been sheltered by authority. Unfortunately they have not done this, but have invented a rule of their own, which is not unlikely to do great harm by driving one class of vessels from the waters of the Thames. According to the existing law, when two vessels, one of which is a steamer and the other a sailing ship, are proceeding in such a direction as to involve risk of collision, the steamer is to keep out of the way of the sailing ship. The obvious justice of this rule needs no exposition. The present legislators have, however, thought fit to improve on it, and have added to it a rider, which is so remarkable that we give it *verbatim*. They lay down that, ‘ If, owing to causes beyond the control of those navigating the steam



vessel, it is unsafe or impracticable for the steam-vessel to keep out of the way of the sailing vessel, she shall signify the same to the sailing vessel by four or more blasts of the steam-whistle in rapid succession, as mentioned in Rule [18]; the sailing vessel shall then keep out of the way.' The language of this extraordinary clause is well worth notice. The legislators, be it observed, have used the word 'impracticable,' one of the most vague in the English language. Strictly speaking, it means impossible; but those who chose it can hardly have intended it to bear this meaning; for, if it does, the Rule states simply that a steamer shall not get out of the way when she cannot get out of the way. As well enact that a steamer shall not be required to proceed along a high road. But the word impracticable is not always used in this strict sense, being sometimes meant to indicate, not absolute impossibility, but very great difficulty; and probably it was intended to have some such signification as this by framers who seem intentionally to have used an uncertain word. Even when this interpretation is put on their rule, however, it still remains an absurdity. Nothing is said about the course to be followed when it is 'unsafe or impracticable' for the sailing vessel to get out of the way, and, therefore, in those cases where there is difficulty for both vessels, that which has the least power of locomotion is, according to this enactment, to keep clear of the other's course. So monstrous a provision will no doubt be tempered by a Court of law, which will virtually supply what the legislators have left wanting; but, even when freed from preposterous anomaly, the clause will still have a bad effect. It will operate as an encouragement to captains of steamers to do that which a great many of them are only too willing to do already—namely, to refuse to give way to sailing ships. Although, under the present law, steamers are required to keep out of the path of the latter, they very frequently do not, the captains rightly judging that, even

with the law on their side, the masters of other vessels will prefer to avoid collisions. With this clause to aid them, wrongdoers will become more reckless than ever. Men are careless enough with a strict law, and what are they likely to be when the law has deliberately been made vague and uncertain. It will be hard indeed if after a collision the captain of a steamer cannot produce some evidence that it was 'unsafe or impracticable' to get out of the way; and though the Courts will of course endeavour to do justice, the proverbial difficulty of collision cases will be increased, and too often it will be impossible to punish the true offender. The probable result, then, of the new rule will be to make the Thames dangerous for sailing ships, and possibly in time to banish them from the river altogether. This result we believe to be most undesirable. Cargoes to a huge amount are still carried by sailing ships, and probably will be carried by them for some time. If, however, it was thought desirable to exclude these vessels from the Thames, the project should have been openly stated and fully discussed. As it is, a sluggish and feeble official body has given its facile assent to a grave innovation the full bearing of which its members probably did not in the least understand."

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#### LOSS OF THE S.S. "LUFRA."

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THE Wreck Commissioner in giving judgment in the above case made the following remark:—

"As to the conduct of the captain of the *Lufra*, he was pleased to see that no reference as to his ticket being dealt with had been made. His conduct towards the last of the vessel, by standing with the engineer up to his waist in water, trying to keep the fires in, was most praiseworthy."

OFFICIAL INQUIRIES WHERE  
Reported since

| Ship.                            | Casualty.   | Loss of Life. | Inquiry.   |
|----------------------------------|---|---------------|--|
| <i>Thomas Tumhull</i> ...        | Wrecked near Hasbro',<br>18th December, 1879.                       | ...           | Middlesbrough :<br>6th February, 1880.                                 |
| <i>W. H. Atkinson</i> , s.s. ... | Lost near Gibraltar, 18th<br>December, 1879.                        | ...           | North Shields :<br>J.P.'s<br>7th February, 1880.                       |
| <i>Lady Anne</i> , s.s. ...      | Lost off Flamborough<br>Head, 28th January,<br>1880.                | ...           | Newcastle :<br>Rothery, Wreck<br>Commissioner.<br>16th February, 1880. |
| <i>Eleventh Lancashire</i> ...   | Lost off St. Govan's Head,<br>Pembrokeshire, 2nd<br>February, 1880. | ...           | Barrow :<br>22nd February, 1880.                                       |
| <i>Ranavola</i> ...              | Stranded on Ballywater<br>Bank, 30th January,<br>1880.              | ...           | Liverpool :<br>Stip. Mag.<br>23rd February, 1880.                      |
| <i>Columbine</i> , s.s. ...      | Explosion of Coal Gas,<br>9th February, 1880.                       | ...           | Cardiff :<br>R. O. Jones.<br>25th February, 1880.                      |

CORRESPONDENCE.

BILBAO TRADE STEAMERS.

*To the Editor of the "British Merchant Service Journal."*

SIR,—I notice in the last issue of your valuable journal, on page 65, Captain Milbank, in the course of a discussion upon the subject "Why do cargo steamers founder?" says:

"The steamers engaged in the Bilbao trade are of the worst possible proportions, but fortunately their safety is entirely due to the fact that they cannot be filled."



## CERTIFICATES HAVE BEEN DEALT WITH.

1st February, 1880.

| Nautical Assessors.                | Finding of Court.   | Decision.  |
|------------------------------------|---|--|
| Harris.<br>Curling.                | Master to blame, and guilty of error of judgment in not using the lead. | Certificate suspended for 3 months.  |
| Castle.<br>Parfitt.                | Master in default.  | Certificate suspended for 6 months; lower grade granted.   |
| Foster.<br>Castle.                 | Master and Mate in default.   | Master's certificate suspended for 3 months, that of the Mate for 6 months; certificates of lower grade granted. |
|                                    | Master in default.  | Certificate suspended for 6 months.  |
| Hight.<br>Wilson.                  | Master grossly in default.  | Certificate cancelled, but one as mate granted.  |
| Grant, R.N.<br>Parfitt.<br>Wilson. | Improper stowage of cargo.  | Master's certificate suspended for 3 months.   |

I wish to observe that Cardiff-owned steamers were among the first to bring ore home from Bilbao, and ever since the commencement of the steam trade in ore from Bilbao, I think about 1865, these steamers have had a good share of this particular branch of the ore trade.

I do not think it unfair, therefore, to take these ships as a good type of Bilbao steamers; and I would like to say a few words about these Cardiff-owned Bilbao steam-vessels.

There are a good many of these ships, and I append a list of about 30 of them, which are now actually engaged in trading between Bilbao and the Bristol Channel, and you

will see on referring to the list that these vessels are not deep in proportion to their breadth. The summary gives an average of only 53·8 per cent. of depth to breadth; and length averages seven beams.

It is absolutely necessary to have a broad, shallow boat for Bilbao, that she may carry a large cargo on light draft in order to get over the bar. Most of the vessels on my list are broad and comparatively shallow boats. A deep, narrow ship would not pay in this trade.

Captain Milbank says, " Their safety is entirely due to the fact that they cannot be filled."

Of course they cannot be filled with ore, it is too heavy; but I would inform you that the majority of these boats take outward cargoes of coal from the Bristol Channel to French, Spanish, and Portugese ports, and some of them *will, and do fill themselves quite full with Welsh coal*. Occasionally also cargoes of rails, coke, and patent fuel are taken outwards.

All the steamers named in my list have double-bottoms, for water ballast, and carry ore, coal, fuel and rails well and easily. Most of them are 100 Lloyd's, a few 90, and some in Liverpool Book, and they have fair power.

The ore very seldom shifts at all; in exceptionally bad weather, however, the extreme tops of the heaps, which are kept well up to make vessel easy, will go over a very little and give steamer a slight list.

These boats make from 12 to 24 voyages a year, thus crossing the Bay of Biscay 24 to 40 times in the twelve months, at all seasons.

Some of them have been at sea in all the heavy gales of this winter, on both outward and homeward passages, coal laden, or in ballast, and ore laden. Every year since the commencement of the trade some have generally been at sea in the worst weather. One of them, years ago, came through the wreckage of the *London*, and this winter one was

crossing the Bay on her passage to Gibraltar, with coal, through the gale which disabled the *Chimbarazo* and *Monarch*, and one in ballast picked up the survivor from the *Valentine*.

I believe that I am right in asserting that not one Cardiff-owned boat engaged in the Bilbao trade has been lost at sea. Two were lost on Bilbao Bar, and one in the river Nervion. No loss of life in either case, and their losses were not occasioned by any structural defects.

I have been a voyage in one steamer in the list, out with coal to St. Nazaire, moderate passage; thence to Bilbao in ballast, fine; and home fully laden with ore, very strong weather. The boat behaved very well all the way round.

Some few of these steamers were in the Baltic and Black Sea last summer, Bilbao freights being very low, and they carried grain in the ordinary way without accident.

Most of these steamers, I know, will stand in the dock without any ballast whatever, and I believe all of them will. Captain Darke, on page 90, *British Merchant Service Journal*, February, in speaking of grain ships, says that "Vessels that will stand in a dock without any ballast at all would go perfectly safely without capsizing."

If these ships are so badly proportioned, how is it that they have done such a lot of hard work in bad weather and up to the present none of them have been lost at sea?

There are also some very fine vessels in this trade hailing from Glasgow and East Coast, and I believe they are mostly broad, shallow ships.

I trust, Sir, that the foregoing facts prove that the steamers engaged in the Bilbao trade are *not* of the worst possible proportions, and that their safety is *not* entirely due to the fact that they cannot be filled.

I am, Sir, &c.,

H. J. VELLACOTT.



LIST OF CARDIFF-OWNED STEAMERS ENGAGED IN THE  
BILBAO TRADE.

|                           | Length. | Breadth. | Depth.* | Horse Power. | Register Tons. |
|---------------------------|---------|----------|---------|--------------|----------------|
| <i>Colstrup</i> ... ..    | 159·4   | 24·1     | 14·2    | 60           | 319            |
| <i>Portugalete</i> ... .. | 180·5   | 26·7     | 14·6    | 80           | 371            |
| <i>Galdames</i> ... ..    | 220·    | 30·2     | 15·5    | 99           | 550            |
| <i>Dowlais</i> ... ..     | 240·    | 33·2     | 16·     | 99           | 711            |
| <i>Beignon</i> ... ..     | 240·    | 33·2     | 17·     | 99           | —              |
| <i>L. E. Charlewood</i>   | 220·    | 30·3     | 15·5    | 99           | 548            |
| <i>Ravenshoe</i> ... ..   | 158·8   | 24·4     | 13·6    | 58           | 253            |
| <i>Rapid</i> ... ..       | 180·5   | 26·7     | 14·5    | 75           | 366            |
| <i>Raglan</i> ... ..      | 215·    | 30·2     | 15·4    | 99           | 536            |
| <i>Raleighs Cross</i> ... | 199·8   | 28·7     | 15·3    | 90           | 497            |
| <i>Rosslyn</i> ... ..     | 220·    | 30·2     | 15·5    | 99           | 545            |
| <i>Rumney</i> ... ..      | 201·    | 29·      | 14·3    | 90           | 523            |
| <i>Rosebud</i> ... ..     | 185·4   | 28·2     | 15·8    | 90           | 467            |
| <i>North Devon</i> ...    | 195·9   | 28·1     | 15·9    | 90           | 484            |
| <i>Mora</i> ... ..        | 199·7   | 28·2     | 15·     | 90           | 491            |
| <i>Wembdon</i> ... ..     | 215·5   | 30·1     | 15·1    | 110          | 585            |
| <i>Saint Audries</i> ...  | 199·7   | 28·7     | 15·2    | 90           | 500            |
| <i>Hero</i> ... ..        | 186·    | 24·8     | 14·5    | 70           | 370            |
| <i>Lisvane</i> ... ..     | 185·    | 27·2     | 15·9    | 75           | 420            |
| <i>Brittany</i> ... ..    | 205·    | 28·6     | 17·2    | 95           | 554            |
| <i>Cæsarea</i> ... ..     | 210·    | 30·2     | 18·     | 98           | 646            |
| <i>Somorrostro</i> ...    | 199·8   | 28·      | 14·9    | 88           | 458            |
| <i>Campariel</i> ... ..   | 190·    | 27·6     | 14·5    | 70           | 425            |
| <i>Gabalra</i> ... ..     | 190·    | 28·1     | 15·6    | 90           | 467            |
| <i>Cermyn</i> ... ..      | 150·9   | 21·1     | 11·2    | 50           | 207            |
| <i>Alliance</i> ... ..    | 212·    | 30·6     | 16·1    | 99           | 611            |
| <i>Activity</i> ... ..    | 225·    | 31·8     | 16·2    | 140          | 758            |
| <i>Earl of Jersey</i> ... | 210·    | 30·2     | 14·9    | 98           | 506            |
| <i>Olaveaga</i> ... ..    | 194·5   | 26·4     | 13·9    | 80           | 413            |
| <i>Ruperra</i> ... ..     | 240·    | 32·2     | 20·     | 120          | 836            |
|                           | 6029·4  | 857·0    | 461·3   |              |                |

\* Depth of hold to top of floors.

SUMMARY.

Average length,  $6\frac{0}{8}\frac{2}{5}\frac{9}{7}\cdot 4 = 7\frac{3}{8}\frac{0}{5}\frac{7}{7}$  beams.

Average depth,  $\frac{8}{4}\frac{5}{6}\frac{7}{1}\frac{3}{3} = 53\cdot 8$  per cent. of breadth.

*To the Editor of "The British Merchant Service Journal."*

SIR,—I beg to send you my opinion with regard to steamships and sailing vessels foundering at sea, which I must say in this fast age is becoming most serious.

1st. I condemn the way steamships are loaded ; that is, the careless manner the cargoes are stowed, and the working in the hold at night by lanterns. I am sure any experienced master mariner must condemn the system, for I am confident no cargo can be properly stowed during a long winter's night by lanterns. How is it possible that a steamship's coal-bunker can be properly trimmed by coal-trimmers at night-time ? The stevedores and coal-trimmers often work twenty-four hours on a stretch without being relieved. Cargoes are put into ships by steam by tons at the time, especially coals, grain, seeds, cocoa, beans, and beans in bulk. This system should not be allowed. No ship should be allowed to load a full cargo of grain of any kind without having it in bags. The best place for looking after grain stowing is at San Francisco ; there the stevedores, merchants, and surveyors will not stow a vessel in bulk but in bags.

2nd. Time is not given to have the holds of ships cleaned and limbers cleared from dirt and ballast, and a clear course for the water to run to the pumps ; and the safety-valves of iron bulkheads in steamers in proper working order ; when these have to be worked on the voyage, they are found blocked up with dirt and iron rust. All these things together, I say, tend to be the cause of ships foundering at sea. I am of opinion that the captain and the first and second officers should be appointed before any cargo is taken on board, and to see that the limbers and water courses are clear, and that the pumps are in good working order, as well as all valves of iron bulkheads. I have myself seen the iron valves so rusted in the iron bulkheads that they were perfectly useless.

After the ship is nearly loaded, the captain and officers are

appointed ; and these gentlemen have to be responsible for all accidents that may occur on the voyage, and all blame is put on their shoulders ; and, in some cases, their certificates are suspended. I am informed also that engineers are in the same situation, for they are very seldom appointed before the steamship is ready for sea. Bad coals are put on board, and then they get the blame for making long passages and the engines not working well. Stevedores, in general, will not pay any attention to the captain or officers if spoken to. I have seen iron stowed on the floor of a vessel, and not a piece of dunnage near. Ships' husbands are very good men, but when they have so many vessels to look after, it is almost impossible for them to see everything done that should be carefully attended to on board ship. Is it fair that the captain should sign bills of lading for the entire cargo of a vessel which is nearly loaded before he joins ? There are many things to be said more than I, a poor shipmaster, can say, for fear of being noted as a discontented, fault-finding man. But to the Shipmasters' Society and to the *Journal* I wish every success, and may the shipmaster be able to find his present and future position benefited by your able assistance.

JOHN G. LOWE.

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*To the Editor of the "British Merchant Service Journal."*

SIR,—I have just read in your June number the petition of the "Amalgamated British Seamen's Protection Society," as presented to the House of Commons by Captain Pim ; the burden of which seems to be more pay (in some shape or other) and less work—a petition which, I suppose, three-fourths of the population of England would eagerly present to any power which they thought could help them. Where is that power ? Does it rest with the House of Commons ? Has Government, somewhere or other, an inexhaustible storehouse of all the necessaries and conveniences of life ?



So far from thinking that the Government has helped English sailors, I believe it is partial laws, very partially administered, that has brought on them the necessity of this petition. What shipmaster has not felt this when in some paper he has read of some sailor sentenced to four weeks for broaching cargo, endangering, perhaps, the lives of hundreds, and of some land labourer sentenced to twelve months for stealing some trifle, possibly for the benefit of a half-starved family. The Government, the Board of Trade, Mr. Plimsoll, and other sailor's friends (so called), having taught the English sailor to be dissatisfied and mutinous, the result is that 70 per cent. of the English shipmasters ship foreigners in preference to them. Government is a means to an end, viz., "that of securing to each citizen all such beneficial results of his activities as his activities *naturally* bring." I am sorry for the English sailor if his activities do not bring him the benefits which he thinks they ought, but the remedy lies with himself; let him learn to fulfil his agreement, viz., to conduct himself in an orderly, faithful, honest, and sober manner, and to be obedient to lawful commands (Articles of Agreement), and he will have those on his side which can help him more than any Government, Board of Trade, or Mr. Plimsoll, namely, shipowners and shipmasters.

They complain that the quantity of food is insufficient, the quality inferior, and that no inspection of food is provided or enforced. Sailors can at any time demand a survey of the stores of a ship. The "Amalgamated British Seamen's Protection Society" can make a new scale of provision, and submit it to the shipowners of Great Britain, and I have but little doubt, if it be reasonable, the greater part of them will agree to it. The same with their complaint about forecastles, viz., let them state plainly what they want; but let them remember that it is impossible to make a ship like a house; certain hardships are incident to their profession, if they are not willing to submit to these, they had better find another,

and not go to sea to be a misery to themselves and a torment to everyone which has to do with them.

I have just left the Mauritius. Nearly every English ship there had a foreign crew, most of them Lascars; one captain of a fine composite barque had, besides himself and his wife, only two Europeans on board; another, of a fine large iron ship, which I knew had European crew, and which I supposed to be English, told me, that he had only one English sailor and he was in jail. It seems that those commanders who have retired from the sea, are the most eager to exclude foreigners.

To the British sailor, then—put not your trust, either in Governments, Plimsolls, or Pims; to your own selves be true; be the best article. How has the British shipowner competed with the foreigner? Why, he has swamped the market, with the finest and best found ships the world has ever seen, and carried goods so well and so cheaply as almost to defy foreign competition. Let the English sailor do likewise.

W. C. S.

Dec. 21, 1879.

Lat. 0°, long. 85° E.

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## PARLIAMENTARY INTELLIGENCE.

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**I**N our last number, under the above heading, we notified that Mr. Plimsoll was about to draw attention to the shipment of grain in bulk. Since that date the Honourable Member for Derby has entered upon his self-imposed task with that recklessness which has been displayed on former occasions, and by such conduct has, we venture to assert, lost the confidence of those who placed some faith in his efforts on behalf of seamen generally.

The Bill to prohibit the shipment of grain in bulk having been opposed by two honourable members in a perfectly

legitimate manner, with the view to prevent hurried legislation, Mr. Plimsoll (who apparently cannot endure opposition) proceeded to placard these gentlemen in their respective constituencies, characterising their conduct as "inhuman." Such a line of conduct could not fail of being noticed, and accordingly the action of the Member for Derby was brought before the notice of the House of Commons, and was pronounced to be a breach of privilege. The offending member, after the lapse of some days, expressed his regret for the language he used, and begged unequivocally to retract what he had said.

The placard above referred to contained a list of vessels which Mr. Plimsoll alleged were lost owing to their cargo being grain in bulk. Naturally those interested in this matter desired to test the accuracy of the list, when it became apparent that it was by no means correct; a fact to which Lord Sandon drew the attention of the House. Mr. Plimsoll thereupon proceeded to represent his Lordship as being the dupe of the officials of the Board of Trade, who, he alleged, had wilfully misled their President by furnishing incorrect information.

Does Mr. Plimsoll wish us to believe that he has a monopoly of knowledge in nautical matters, and that his statements are more correct than those proceeding from the Board of Trade? We are of opinion that the Honourable Member is so led away by feelings of animosity to the Board, that he readily snatches up any story without making careful inquiry as to whether it be not sensationally overdrawn. We fully concur in Mr. J. R. Corry's remarks, made at the banquet of the Chamber of Commerce, "that there are but very few gentlemen in the House of Commons who understand much about the shipping interest," and certainly we consider that Mr. Plimsoll cannot claim to be admitted within the small circle.

It is satisfactory to know that a Select Committee is about



to inquire into the recent losses of cargo steamers, for it is only by a thorough investigation that satisfactory legislation can follow.

The Committee will consist of the following members (Mr. Plimsoll having refused to serve):—Mr. Arthur Peel, Mr. J. C. Talbot, Mr. Biddulph, Mr. Algernon Egerton, Mr. Thos. Brassey, Sir John Hay, Sir Harcourt Johnstone, Mr. Bates, Mr. Mundella, Mr. James Corry, Mr. Gourley, Mr. Gorst, Mr. Norwood, Mr. Kavanagh, Mr. O'Shaughnessy, Mr. Birbeck, Mr. Stevenson, Mr. Onslow, Mr. James Stewart, Mr. Mulholland, Mr. Spencer Stanhope, Lord Arthur Russell, Mr. McIver, Mr. Cowen, and Mr. C. M. Palmer.

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### HAIRBREADTH ESCAPES.

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A FEW days ago, Mr. Editor, I was in South Shields, a busy seaport with which I was till lately very closely connected, and where I still take a very lively interest in that noble institution for the instruction and elevation of seamen, the Winterbottom Nautical College. I was told a circumstance relating to a young man, a member of that college, which made a deep impression upon me, and which I think may not be without useful suggestions for some of your readers. I venture, therefore, to tell you about it. The young man I speak of, whom for the sake of convenience we will call H., left his ship to attend the college, to study for the certificate of mate. After some disappointments he succeeded in passing; and, having obtained the coveted document, sought an engagement. He has a wife and two children, and I am not sure that he does not support also his aged mother. He had been ashore between two and three months, and his scanty stock of savings was exhausted. He was naturally very anxious for a berth.

None came for a few weeks. Then arrived a letter from his last employer, telling him that, if still disengaged, he should have the situation of mate in one of the vessels of the firm shortly expected home. He would be able to go on board of her, in his new capacity in three weeks' time. The offer he was delighted with; but the three weeks was a long time to wait. After taking a day to consider of it, however, he decided on acceptance, and wrote a letter to close with his employer's offer. He was on his way to the post-office with the letter in his hand to drop into the box, which would have made his acceptance of the berth an accomplished fact, when he was accosted by a runner from the Mercantile Marine Office. "O! H., I want a man for the *Fanny*! you have been looking out for something a long time. Will you go? She sails at nine o'clock to-morrow morning." There was short time to decide. The wages would be considerably less than those offered to him by his late employer,—but, then, those three weeks! How were his wife and children and mother to get over these with no money,—and not only those, but the month that must follow before his half-pay could be drawn! He accepted the runner's offer; tore up the letter to his former owner; went home with the news; and, next morning, was off with the tide, bound to a distant port.

But, as the days passed by, there was regret at home that they had not after all tried to struggle through the three weeks' hardships, and that H. was not now mate of the *C.*, which had completed her voyage, shipped her new crew and another mate, not H., and was again on her way from the Tyne to foreign parts. Not only had he failed to obtain, for the present, at any rate the position of mate, but he had also accepted much lower wages.

The day I visited South Shields, or the day before, the news had come that the *C.*, in which he was to have gone as mate, had gone down with all hands, not a soul being left alive to tell the tale of the sad catastrophe.

This set me seriously thinking. Was it blind chance that caused the runner from the Mercantile Marine Office to meet H. just as he was about to drop the letter into the post-office that would have sealed his fate, or was it the ordinance of a Higher Power?

It brought, also, forcibly to my mind another case that I knew perfectly well; that of an old pupil of mine, a fine young man, who went mate of a vessel belonging to a friend of mine. When in the Levant, he fell from the yard arm on to the deck; was taken up with a broken leg; was carried to the hospital at Smyrna; and was left there, while the vessel went on to the Black Sea. She never returned, but went down in the Black Sea with all hands; and my pupil was the only one of her crew that escaped death, and that through the mysterious accident of the broken leg.

I have no doubt many of the readers of the *British Merchant Service Journal* could tell of similar "hairbreadth escapes;" yea, of some equally striking, that have happened to themselves. Such marvellous deliverances should have, I think, an effect upon those who are the subjects of them. They should make them feel that their lives have been thus wondrously preserved for some special purpose, and they should endeavour to fulfil that purpose, ere the summons comes from which there will be no deliverance. I think, too, these striking instances of providential interposition should lead seamen generally to a more hearty recognition of God's providence, and of His power and will to aid them, if they commit themselves to Him for protection. Seamen, though a reckless race, are not an atheistic, unbelieving race. They, as David said long ago, "see the works of God, and His wonders in the deep;" and they, as a body, are not at all disposed to deny His greatness, His glory, and His sovereignty. But what one would like to see in greater degree is more active faith in Him, more regard to His commandments, more desire to honour Him by such



conduct and language as becomes Christians. The improvement that has taken place amongst seamen in these particulars of late years is most marked ; and that it may go on and increase largely, must be the wish and prayer of every one who has the true welfare of the service, and the true honour of his country at heart.

I will conclude this brief paper with an account of one or two "hairbreadth escapes," which saved the life of the famous John Newton, who was, before his conversion, a profane, reckless, godless sailor. There could not be a greater proof that such deliverances are providential, and that they call loudly to those who are the subjects of them to turn from their evil ways and give their hearts to the life-work God requires of them, for John Newton was, in after years, one of the greatest instruments in the hands of God for the awakening of his countrymen and for the kindling of that revival of religion which has made the England of our day a totally different country from the England of a hundred years ago.

One day, in a fit of intoxication, he threw himself over the side of the vessel in which he sailed to recover his hat, which had blown overboard. It was night ; he could not swim, and the tide was running strong. A person saw him and caught hold of his clothes, and so held him till he could be pulled back into the ship. Had not that person been by the side of the ship at that very moment, John Newton would, as far as all human probability goes, have undoubtedly perished.

Another day, after he had been in some degree awakened to see the folly and wickedness of his previous life, as he was going ashore to superintend the sending in wood and water to the ship, of which he was mate, and which was then on the West Coast of Africa, but which was about to proceed to the West Indies, the captain called him back from the boat, which was just about to put off from the ship's side. He returned on board, expecting further orders, but

the captain had no further orders to give, only that another officer should go in Newton's place. Newton asked him "Why," but the captain had no reason to give, only that he would keep him on board "because he had so taken it into his head." Newton, of course, acquiesced, as in duty bound, but not without wonder. His wonder, however, was turned to thankfulness when the result was manifested, for the boat was sunk and the officer who went in his place was drowned.

Instances from the life of this remarkable man might be multiplied, but these are enough to show that these things cannot take place by chance, but that they are ordered by One unseen, yet everywhere present, who holds the waters of the ocean in His hand, and who numbers the very hairs of our heads. Sailors, of all men, should be moved by these things, and should pay heed to the many marvellous interpositions of God's providence on their behalf.

R. E. HOOPPELL.

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## OCEAN STEAMERS FOR WAR PURPOSES.

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AT a meeting held at the Royal United Service Institution on 5th March, the Marquis of LANSDOWNE presiding, a paper was read by Mr. Donald Currie on "Maritime Warfare; the Adaption of Ocean Steamers to War Purposes."

Mr. DONALD CURRIE, after a reference to our relations with foreign Powers, observed that we had to ask ourselves these questions—May our colonies be attacked? May our food supplies be cut off? May the enemy land on our shores? Having alluded to the possibility of war, he said that the sooner our commerce became alive to the necessity of assisting the Government, and the Government became convinced of the propriety of preconcerted arrangement, the better for England's position. As to the more special

subject of his paper, speaking generally, merchant steamers, if of suitable speed, would be most useful (1) if employed as mail packets in time of war; (2) as offensive cruisers; (3) as cruisers on the defensive; (4) as dispatch vessels attached to a squadron or naval station; (5) as transports; and (6) as gunboats, or store ships. The value of mail steamers in time of war would not be second to their usefulness in time of peace. Telegraphs would always be liable to destruction either by accident or design, so that during a war the mail steamer would be a positive necessity, and if she was a necessity she should be armed and ready to defend herself, and if required be ready to do more than resist attack. The late war in South Africa had shown the value of the merchant ship as a transport and the effective service they could render in that capacity. But the employment of merchant steamers for war could not do away with the necessity for a full strength in the Navy. There must be in his opinion, a large and adequate supply, and, indeed, a considerable increase in the number of our cruising men-of-war. There was much misapprehension in the country as to the force in reserve which could be supplied by the Mercantile Marine. There was not one hundred ocean steamers in this country really suitable for Admiralty requirements, and fit to travel over twelve knots an hour; indeed, taking everything into account, there were not eighty. Shipowners had been asked by the Admiralty to furnish the drawing of their vessels. They had given the authorities all the particulars which were required, and at Whitehall the full details of every suitable steamer were in possession of the officials; yet, although the shipowners were put to considerable expense in preparing their vessels, and although they were assured that the preference would be given to those vessels, there had been no preference whatever given, and owners had derived no practical advantage for having so prepared their ships. At this moment, he maintained, there was no definite



principle established upon which steamers were selected for Government service. Information obtained by the authorities led to an enquiry into the desirability or necessity of building a large number of cruising vessels for the Royal Navy. The general conclusion arrived at by those connected with the Admiralty who were best entitled to form an opinion was to the effect that if a high speed could be obtained merchant steam ships might be secured by the payment of some annual subsidy. In 1878 the present First Lord of the Admiralty stated in Parliament that, in the event of war, then considered probable, it was intended to arm thirty merchant vessels as armed cruisers. Nothing was really done. All these enquiries, the information obtained, the arguments advanced, and the opinions given had resulted in no practical issue; and his purpose in this paper had been, and was, to press upon the country the necessity for a decision one way or the other whether anything was to be done. If the authorities did not carry out some practical plan for making use of the merchant shipping of this country, they would know that they had afforded much information to foreign powers as to the maritime resources of this country, in the shape of particulars of nearly every steamer possessing speed. Were the foreign governments, then, to have the choice of our steamers? Were they to know all our weak points? Would the British Admiralty do nothing to carry out their own first intentions? While saying this he could not but pay a tribute to the zeal, energy, and ability of the officials of the Admiralty charged with the collection of information. They had done what they could for the national interest in this matter. Without any further reference to the past, Mr. Currie proceeded to submit what he considered a practical plan, whereby the merchant shipping of the country might be employed in cases of emergency. The scheme he submitted to the meeting was this:—Let the Government select ten, or twenty, or thirty steamers

(if they could find that number) capable of steaming over twelve knots an hour for twenty-five to fifty days without stopping. Engage these vessels upon some such terms as these—a payment monthly, or by the year, for their retention; have it an obligation on the owners to retain in their employ men connected with the Royal Naval Reserve. Let the Government keep at certain specified places, such as Ascension, the Falkland Islands, Simon's Bay, Hong Kong, Sydney, Halifax, Bermuda, Vancouver's Island, and other strategical points, a sufficient number of men of the Royal Marine Artillery and Infantry, with guns, fittings, magazines, ammunition, torpedoes, &c.; prepare the necessary means for arming the vessels retained, and which otherwise would be employed in their regular trades. He took for illustration Simon's Bay. If one or two of the Cape mail steamers were fixed upon let their guns be kept at Simon's Bay; on board of the vessels place four leading men as gunners, who would assist to train the crew (all Reserve men) and be ready for emergencies; at Simon's Bay let there be a sufficient number of the Royal Marine Artillery, or of the Royal Marine Infantry, properly trained and ready to embark at an hour's notice. The number of cruisers required would absorb all the Royal Marine Artillery we have for instructional purposes, and also the Royal Marine Light Infantry who may hereafter be instructed in artillery duties. Looking to what France can bring into action we had not a man too many—in fact, we had not a sufficient number of men for the sudden outbreak of war. Fix with the owners of the ships that these vessels are to be ready at any time to be handed over to the naval authorities at Simon's Bay, there to be fitted and to proceed to cruise off the Cape, or off Cape Horn, or towards Australia, or away in China, or wherever required, in the event of war and the appearance of the enemy's cruisers. The cost would be trifling as a means of maintaining a number of fighting vessels, it would

add a splendid fighting power to our naval resources, as far as men are concerned, and on this latter point we should consider that upon war breaking out the Admiralty would have difficulty in manning all the ships of the Royal Navy, or, indeed, even a large portion of them. If there was one thing more surprising than another to him in relation to a possible war, and the probable closing up of the Suez Canal, it was the absence of a graving dock at Simon's Bay. He urged that Government docks should be established for Government account at every one of the most important strategical points of our wide-spread Empire. But beyond question Simon's Bay, half-way as it was to Australia and the East, should have a naval dockyard and graving dock suited to the repair of the largest men-of-war. At Cape Town the authorities were building a graving dock; but a commercial dock would not serve the purpose of the Royal Navy in the case of war, and the South African Station, as one of the important sea routes towards South America, as well as towards Australia, India, and the East, claimed the earliest attention at the hands of the Government, who ought to ask Parliament at once for the necessary funds. Between Plymouth and Melbourne or Sydney there was no graving dock in existence for men-of-war? What would happen if a naval combat should take place off the Cape Colony resulting in the injury of our ironclads or cruisers? It was useless to think of employing merchant steamers in war unless we took the supply of coal into account. It was admitted that the coaling stations for our fleets should be fortified. Mr. Donald Currie concluded by expressing his belief that whenever the time of danger came the Mercantile Marine of this country, judiciously used, would have the spirit to respond, as it had the power to be equal, to any claim which might be made upon it.



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THE PROBABLE EFFECT OF SEA FOG ON  
THE MARINER'S COMPASS, AND THE BRITISH  
SAILOR IN PREFERENCE TO THE FOREIGNER.

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THE following is an extract from Captain Saxby's  
Weather Table and Almanack for 1879:—

“Through life I have been intimately connected as a sailor with nautical men, and do not hesitate to say that a confident belief prevails strongly that, as our experience extends, the assertion that fogs do not affect the mariner's compass becomes more and more doubted. We frequently hear of ships getting on shore after and during a fog or hazy weather. Captains coming into the Channel in winter time, during long nights manage through darkness, with careful attention to dead reckoning and soundings, to avoid the land, and, if they are commanding steamers, to keep their Channel course; but how is it that if a fog prevails they get on shore, having departed from their supposed track? Every navigating sailor knows what is the value of every half point of a course in bringing the tide on either bow, or as increasing the drift of the ship on either hand. The *Schiller* was a case in point. Losses of ships in a fog are so well known that it is needless to particularise.

“ Getting on shore in a fog means one of three things, namely :—

“ 1st. The captain mistaking the amount of compass error.

“ 2nd. That the compass has been affected by some unknown influence, and fog may be that one.

“ 3rd. That both causes of danger exist simultaneously.

“ Now, care is generally taken on an official inquiry to investigate the first: the second needs the same searching attention. In a public communication on this subject, I once, I think in 1870, quoted an instance in which a whole fleet of merchantmen had their compasses affected during a night's fog, and in the morning found themselves, as the fog cleared, going directly for the dangerous part of the Channel called the Casquet Rocks; not one ship alone was turned from her course, but the whole thirty sail had their compasses disturbed. Of such a fact abundant corroborations have since been found. Many instances of ships being lost in the Irish Sea are, I venture to assert, well known, and from the same cause.

“ There is little difficulty in explaining one cause of compass disturbance. Every schoolboy in these days knows that magnetism is an adjunct of electricity. Hygrometric changes in the condition of the atmosphere disturb electricity, that is, disturb magnetic influence. Oxygen exists in the atmosphere either as free or in connection. Oxygen is sensibly subject to terrestrial magnetism.

“ If hygrometric changes disturb electricity, they disturb magnetism, and therefore affect oxygen. Ozone is said to be oxygen in a state of high excitement; it becomes therefore the more magnetic and has more power of disturbing the compass.

“ It would therefore surely be a matter of prudence and safety to assume that fog (sea fog) affects the compass, and shipmasters will at all times do well when fog threatens them to test the correcting card by some heavenly body.”

Here then I have Captain Saxby on my side upon this very important question as regards the influence of sea fog upon the mariner's compass. He is a high authority on all meteorological subjects. It was Captain Saxby who foretold the Calcutta cyclones of 1864 and 1865, and had his warning been attended to by the authorities in that port at that time, much of the damage to shipping that occurred might have been prevented. As usual in these cases, those whose duty it was to give warning of the coming danger, were dumb ; in fact knew nothing about it until the cyclone became so developed that any "gharrie wallah" in Calcutta could have told them what was coming; it was then too late to do anything.

I was very much gratified in reading the foregoing extract from Captain Saxby's Almanack, and also to find my opinion backed by so high an authority, and that he coincided with me in the belief that the mariner's compass was dangerously affected by sea fog.

My letter upon this subject was in the October, 1879, number of *The British Merchant Service Journal*, and was in connection with the loss of the s.s. *Brest*, near the Lizard, in which letter I stated my opinion, based upon personal experience, that fog had affected the compasses of that ship, and had most materially contributed to the disaster. Only last week another steamer was totally lost in a fog on the Rundle Stone in the same neighbourhood. Since that wreck we have had more fog than usual, foggy as our coast is during the winter months. I have been looking anxiously in every succeeding number of the Magazine for either a corroboration or negation of my theory and experience, but none has appeared. There has been one notice taken of the theory, but the writer contents himself with a simple denial; but denials or assertions are not proofs for or against my theory that such effect is produced. We want facts, and facts only can prove me right or wrong. I have every reason



to believe I am right ; if wrong I wish to be corrected, but a simple denial of the fact, as I believe it to be, is no proof to my mind, and will convince no thinking man that the theory is untenable. I am surprised that none of our sea-going members have taken this subject up ; surely such a question is well worth a searching investigation. It is in the power of the sea-going members of this Society to set the question at rest. How is it that there is no interest taken in these things ; that no one will take up this subject and give us the results of his researches. Is it of no consequence ? Is it not worth while to try and find out whether fog affects the compasses or not ? And if so, to be able to put our brother shipmasters on their guard against a heretofore unknown danger and cause of wreck ; or, on the other hand, to be able to tell him that fog has no effect on his compass : in the latter case making his mind easy, or in the former showing him the necessity of greater vigilance and caution. To do this, there is no need of an acquaintance with electricity and magnetism, the latter being twin brother to the first—we are dealing with results not with causes ; it does not require any of the learned sciences ; it does not require either a Cambridge or Oxford professor, or any Eastern pundit to arrive at so simple a conclusion ; it requires nothing more than a careful attention to the deviation of the compass, the courses steered, wind and tide, before during and after the fog. A few sets of such observations by various captains, under different circumstances and at different times, would soon set the question at rest. I am again bringing this subject before the sea-going members of our Society, not only as a subject worthy of their regard, but as a subject that demands their careful attention, for their own safety and the safety of others. And surely when human life is concerned no subject in connection should be considered trivial.

It has lately been discovered, but is not generally known, that the Start and Lizard are connected under water and in

an unbroken straight line, by a narrow ledge of granite rock, in most parts level with the surrounding bottom, and in no part more than a few feet below ; the depth of water in no case being over 40 fathoms. Can this ledge have any magnetic influence on the needle ? If so, has it contributed to the wrecks on or near the Lizard ? Is it one of the causes of the many disasters about this part of the English Channel ? That there is some disturbing influence about this part, I imagine but few of us will deny. Fog has not always been the cause of ships getting out of their position about here ; it has occurred in fine weather, the land or a boat has been seen or spoken which has shown the captain he was out of his course, though he wisely kept his knowledge to himself. But in a fog he has neither heard nor seen anything until the ship struck, and then everyone on board became painfully aware of the fact.

#### BRITISH IN PREFERENCE TO FOREIGN SAILORS.

“ W. C. S.,” in the last number of our Magazine, again recurs to the vexed question of the Foreign against the British sailor in British ships, and attempts to prove that he is right in shipping aliens to the detriment of his own countrymen, by showing that others do it. A man who is doing that which he considers right, and conscientiously believes himself to be right, is always ready to go on without attempting to raise discussion upon the subject ; and, if discussion does arise, to at least refrain from making any insinuation derogatory to those who do not think as he does, and are not inclined to follow him. Now, for a man to defend a burglary because others have committed and do commit the same offence, would be a novel kind of justification, but this is “ W. C. S.’s ” line of argument. There is a French proverb, “ That those who excuse themselves are their own accusers.” Right and wrong are distinct and opposite terms, uncontrovertible ; no amount of argument

or example can make right wrong or *vice versâ*. To do wrong because it is expedient for the time, or that good may come, is not allowable, and is justly condemned by all right and true-minded men, and must fail of the result anticipated, because right is right and wrong is wrong; there is no affinity between the two. It is wrong to ship aliens in British ships, because by doing so English sailors are kept out; it is wrong as an Englishman to prefer foreigners to one's own countrymen. I will not go into the question whether foreign sailors are or are not as much addicted to vice and insubordination as English sailors. I will even allow that, as "W. C. S." puts it, English sailors are the worst of the two, but not very much. Assertions without proofs are valueless. I am not going to try and prove either the one or the other; that is not the line of argument I intend to pursue in this question. I shall take higher ground. I say to "W. C. S." and others: You, as a British shipmaster, have a duty to perform to your country; that is, to assist to the utmost of your power, to so foster and encourage the British sailor in the British Merchant Service, that in case of a naval war, he may be a valuable addition, and aid in the defence of his native land. Are you doing this by preferring aliens? Will aliens fight for England? Are they to be trusted? I answer, No. Are you, as a British shipmaster, doing your duty towards your neighbour, the British sailor, by shipping aliens only in the ship you command. I say again, No, you are not. Are you, as a British shipmaster, so perfect in all your relations of life, that you can and dare sit in judgment and condemn a whole class of men such as the merchant seamen of this country, for the faults of the minority? I say again, No, you are not; no one is, or ever can be. You say the British sailor is drunken. Do you set him an example of sobriety? You say he is a curser and blasphemer. Do you set him an example of mild and temperate language at all times? You say he revels in the



grossest immoralities with the lowest women when on shore ? Do you set an example by shunning vice and sin though decked in silks and jewels ? You say he breaks his agreement with you upon the flimsiest pretext, and on no pretext at all. Do you stick by and always fulfil your word to him ? You say he is insubordinate, careless, and negligent. Have you always done as you were ordered, when in a subordinate capacity on board a ship ? Have you never been careless in carrying out an order from a superior officer ? Have you never been negligent in the performance of any duty ? If you have done all this ; if you have been absolute perfection in everything that concerns your life, you are still more in the wrong. If you are so perfect, you should, nay it is your duty to God who has enabled you to be so—to take the British sailor by the hand, to show him the right road, and win him back by your example to what he ought to be. But as I am sure there is not one among us that would say, I am as perfect as I can be, but as an honest man will say, “I am worse than I ought to be.” Then have compassion on the British sailor ; have compassion on those who have not had equal advantages with you ; have some brotherly feeling for the British sailor, who, whatever his faults may be, possesses some sterling good qualities that ought to outweigh the faults ; do your utmost to raise him from the mire you say he is in ; teach him by precept and example to shun all that is wrong and to do that which is right ; make him in every way a better man, a truer patriot, and above all, a Christian, not only in name but in practice. By doing this you will be doing a grand work ; by leaving this undone you are missing a splendid opportunity. You will no doubt remember the parable of the Talents ; this may be the one talent confided to your charge as a British shipmaster. What account will you render when God demands the proceeds ? What is the use of telling the British sailor to trust neither in the Government, Plimsoll, or Pims, but be

true to himself—I quote your own words—when you the man, who, as a British shipmaster, he ought to trust, will have nothing to do with him. If all British shipmasters were of your opinion, what would become of the British sailor, and of British merchant ships in case of a naval war, and of the British Navy with no sailors to man the fleet, and should our Navy be destroyed what would become of England? It is nothing but that strip of sea, about twenty miles across, but which is guarded by our ships and sailors, that renders England so free and independent as she is. But for it and them we should long ago have been incorporated and gobbled up by one or the other of the Continental boa constrictors, for whose capacious swallow nothing is either too large or too small, too hard or too soft. Our Navy destroyed, subjugation of England by the power destroying it follows as a matter of course; and British shipmasters who persist in shipping aliens would have the bitter knowledge of finding out, when too late, that they had most materially contributed to such a disastrous result. This is not what in America is called by the expressive word “Bunkum;” it is simply true. Our Navy destroyed, our merchant ships in the hands of a foreign power, most of them taken over to the enemy by the aliens forming the crew, starvation would stare us in the face in ten days. The Navy gone, what is to prevent some hundreds of thousands of legalised foreign murderers from landing on any part of our coast, destroying our army and volunteers by sheer weight of numbers, being able to lose five men to our one, and then at the end of the battle still have an army twice as large as ours before the battle began; this accomplished, there is nothing but subjection to the invader; and as we have been the most free and independent people in Europe, so would the foreign yoke be ten times more galling. There is more than one foreign power that would dearly like to have such an opportunity and would not

miss it ; but while we can bring fleet after fleet into action, manned by British officers and sailors, men who will die rather than submit, any nation, no matter how powerful she may be, will take a very short time to come to the conclusion that England had better be left alone until less prepared. The Merchant Service of England ought to be a training-school for, and supply the Navy with men, and in time of war be sufficient to man the war ships three times over. But how can this be, if the British shipmaster, to save himself a little trouble and annoyance, is to ignore his own countrymen and only ship aliens ; if this is to be the rule I cannot see any termination but the one indicated.

The remark that “ it seems that those commanders who have retired from the sea are most anxious to exclude foreigners,” is again an assertion without positive proof. I know men in command of ships sailing out of the Port of London that will not ship foreigners when they can get Englishmen ; for my own part I always shipped Englishmen, or subjects of the British Crown, in preference to foreigners. I have had some very bad characters amongst them, men I could do nothing with ; but by far the greater part were men with whom I got along very well, and amongst them men who were worth their weight in gold in an emergency, always ready, always willing. As I said in a former letter I know the British sailor well, his faults and his good qualities ; I am not going to magnify either at the expense of the other. I went in at the hawse holes and went out through the cabin windows ; therefore my experience is general and I have a right to speak. While I am on this subject I must say a word for the “ British Seamen’s Protection Society,” of which Mr. Lind is the able Secretary. This Society is formed (among other objects) to raise the sailor to better things. The men joining this Society must be men of good character ; the fact of sailors belonging to such a society is at least a proof that they are thinking men. Here is a



society that will go hand in hand with the British shipmaster afloat in making the sailor what he ought to be. Are you, the British shipmasters, going to hang back and say, No, we will not have anything to do with such a society. Some may say so, but the majority will do their duty to their country, and their brother sailors, in the position it has pleased God to place them, and will feel it a pleasure to cordially co-operate with this society in so laudable an undertaking.

Sailors may well complain of the food given them while at sea. The provisions of themselves may be, and generally are, the best of their kind; but what is the staple: salt meat, hard biscuit, pea soup and a little flour; when butter is given, three-quarters of a pound of salt pork and two pounds of salt beef are deducted per week for three-quarters of a pound of the first. These provisions are good of their sort, but they only just keep life in a man, and do little or nothing to restore the waste of muscle and tissue in the human body. I am glad to see the British Seamen's Protection Society are moving in the matter. Here again "W. C. S." says that, "If an altered scale of provisions is submitted to the ship-owners of Great Britain, the greater part will agree to it if reasonable." It is not a safe thing, and the law very properly refuses to allow any man to judge his own case, or cause. My opinion is that very few owners, if any, will give anyone on board their ships anything they are not compelled to do. If they are so liberal why do they grind down wages until they are so low that the captains and officers of merchant ships are the worst paid men in the world, with the greatest amount of responsibility. I know there are some who do give the sailor a liberal diet. It is not those that should be interfered with, it is not those men that would object to be interfered with; it is those that will do nothing for the sailor in bettering his provisions. These are the men that should be forced into it. I have not long left

the sea. The last ship I commanded was one of many owned by a company; the provisions on board that ship were no better than I have stated, but on Sunday the men had what was called a fresh mess. Mess was a good name for it; sometimes it was preserved beef, but most generally soup and boulli, which the sailor calls "soup and buillion, three gallons of water and one onion." The smell of this soup and boulli was enough for me. This stuff, thickened by a little flour and preserved potatoes, was all the fresh meat they had during the passage. There is no reason why sailors' food should not assimilate more to food on shore, but I am certain the majority of shipowners will make no change unless compelled, therefore the sooner they are compelled the better. It is strange, but true, that the Government in framing the Merchant Seamen Act did not think of this. It did not forget to insert that a deceased seaman's effects were to be sold on board the ship to which he belonged, article by article, and no two together, so that if the dead man had two dozen needles each had to be sold separately to keep within the Act; but never thought of protecting the living sailor by a generous diet. The sailor is fed upon salt provisions, the Government in mercy give him fortified lime-juice to undo the consequences of this food. It is a strong digestion that can go on unimpaired for years on salt meat, but when you pour daily a gill of strong lime-juice and water on the top of it, nothing but a human stomach could stand it three months. Foreign-going sailors have long gone by the name of lime-juicers. I assert that in general no class of men are fed so badly as the British sailor, and in many ships the captain and officers are no better cared for, and have the same food. I say this state of things has lasted long enough, and requires immediate alteration. I am surprised to find a shipmaster sneering at the sailor for trying to get better provisions.

"W. C. S." sneers at sailors for wanting a comfortable place to live and sleep in on board ship. I say the majority

of ship's forecastles are not fit to hold a dog, much less a human being; they are neither wind-tight or water-tight. The windlass and bowsprit taking up nearly all the centre space. Take for example a deep-loaded ship towing into the Downs from London, against a head wind and sea, with both anchors ready to let go. Of course she is plunging and continually putting the hawse pipes several feet under water, sending at each plunge a deluge of water through the fore-castle, and this in the winter months; at night, in frost and snow. What a place for a man to come down into wet and hungry after the ship has anchored: his bed wet from the same cause, the water having been driven in with such violence that it reached and filled not only the lower but the upper tier of bunks. This is no exaggeration; I have been a victim to it, and seen it with sorrow on many occasions. "W. C. S." says it is impossible to have a ship like a house. No one expects or asks it; but it is quite possible to have a deck-house in which the sailor can at least have a dry bunk and deck to stand upon. Ships' forecastles as dwelling-houses for sailors should be forbidden, and deck-houses substituted. Certain hardships, as "W. C. S." remarks, are incidental to a sailor's life, but all that are not so, but result from the avarice and indifference of those who live in luxury by the exertions of sailors should be done away with. No sailor expects to be always dry on deck. He knows that rain will descend and soak into everything he has on in a very short time. He is well aware that during a gale a sea will at times come on board and wet him to the skin in a second. This he takes as a matter of course, and laughs at it. No sailor expects to have hot rolls for breakfast, or to have a table laid with china plates, best Sheffield cutlery, and silver forks, Bohemian glass, and linen table napkins; but he has a right to demand that he should not feed like a dog. Surely a sailor has a right to demand that his bedplace shall be wind and water-tight; that the place he lives in shall be free from



things that ought not to be in his dwelling-house ; for, mind you, a fore-castle or a deck-house is a sailor's dwelling-house to all intents and purposes. All ships should have properly constructed deck-houses for sailors. The sooner these improvements in the dietary scale and lodging of a ship's crew are put in force the sooner will the sailor begin to care for a comfortable ship, and remain in her, instead of deserting in a foreign port, as many unfortunately do. Those who so continually blame the sailor for running away should ask themselves what is done to make him comfortable and induce him to remain on board. Those who are trying to make the British sailor a thoughtful and religious man are doing a noble and blessed work, but, I say, first make the sailor comfortable ; let him feel that his temporal wants are being supplied, and then he will listen with attention when you speak to him of his spiritual deficiencies. In all that I have written on this subject I must be understood as speaking of things that exist in the British Merchant Service ; it is the only service I know anything about. A sailor in the Navy is, I believe, well looked after in every way. How vast has been the improvement in our sailors in the Navy during the past few years, and all because their temporal wants were first looked after. Let this once be the rule in our merchant ships and much that is so deplorable in the conduct of many of our sailors will disappear.

Sailors have in far too many instances been guilty of broaching cargo, for which I never could see any excuse ; but how often is it the case that temptation is put in their way by the manner the cargo is stowed. I do not defend the sailor in any way in doing this ; there is no excuse for it, and the punishment generally awarded him if found out is very inadequate to the offence, considering that the sailor wantonly risks the loss of ship and all on board by this act of pillage, as it is generally done at night time, and with a naked light and lucifer matches ; but surely some blame is

to be attached to those who have put temptation in his way. I have known cases of individual sailors refusing to have anything to do with such acts, or to partake of things so obtained out of the cargo and stores by their less scrupulous shipmates.

I kept a whole crew in San Francisco in spite of every exertion made by the crimps and boarding-house keepers to get them away; they knew by experience that I did all in my power to make them comfortable, and that the chief mate worked hand and glove with me to the same end. These men were always ready to turn out when called on. The majority of that crew I am happy to say were Englishmen. When the boarding-house keepers came on board and tried by force to put the men into the boats, as is the custom in that port, they demanded protection from me. I told the boarding-house keepers that the men were unwilling to leave the ship with them, and that if they persisted I should repel violence by violence, and as they found that I had my whole crew to back me, they very wisely determined to go on shore without them. I do not mention this to blow my own trumpet, but just to show what may be done by a little kindness to and looking after the sailor's interest and comforts. I could not do very much, as the owner of the ship would have made me pay any expense I might have put the ship to in doing it. The overlooker, an old master mariner, thought anything too good for sailors, but as the one ceased to be an owner, and the other an overlooker, they will not stand in the way of those who wish to give the sailor better food and accommodation. Coming home I encountered in the Atlantic a winter gale of great violence; the cargo shifted, I lost yards and sails; these men worked for 48 hours without any interval for rest, saved the ship and all on board from going to the bottom. It was the nearest touch I ever had of foundering with all hands.

Let no brother shipmaster think on reading this paper

that I am setting myself up to teach him his duty. I am not intending to do anything of the sort. I am trying to put before him, as a brother shipmaster, what from my experience I think and believe to be the right thing to do, and to save him from feeling in after years, as I do now that I have left the sea, how many golden opportunities I lost in the earlier years of my career as a Master Mariner for doing good to those whom it had pleased God to place under my command. I wish to save each and all from the pain and regret I now feel in not having begun to look after sailors earlier, and set them a proper example; also let "W. C. S." take my remarks in the same manner, and with all good feeling, and give me the same credit in making them that I accord him, namely, that I believe he considers his course the right one. If I can win him over to my way of thinking I shall be glad.

Thank God that there is so much interest now taken in the Merchant Seamen of this country; it was high time that something should be done for the sailor. He has been for many years neglected both in body and soul; but begin first by making him bodily comfortable in all ships. It is more than folly to tell a man you are anxious about his eternal interests, when you leave him worse housed and fed than your dog. He does not believe you, and how can he? It would be contrary to human nature if he did. It is said that our sailors are worse in every way than they used to be in former years. I do not believe it. Take Dibdin's songs, that are supposed to have done so much good in his time, and to pourtray the sailor as he was in those days; what are they? Many of them in praise of the lowest debauchery with his lovely Nan, Poll, and Sue. Such lovely creatures are more fitly described as fiends in human shape, which lovely creatures preyed upon the sailor in every way, ruined him body and soul. Take others entirely devoted to the praise of the flowing can; almost elevating drunken-



ness into a virtue. It is from such degrading vices that far too great a number of sailors require to be raised. This will be done by giving him a comfortable place to live in, and proper food to eat, and, above all, educate him; he will then cease to revel in the society of a harlot, and will not drink himself into a condition below a beast. He will cease to think the low lodging-house a paradise, compared with the hole he has been in for months. The majority of sailors are, in my opinion, mentally and in every way better than they were in those days. There are thousands of sober sailors, and though not perhaps strictly and severely virtuous, would scorn to be as profligate and drunken as the sailor of years gone by. Look at the number of married sailors; is this no proof that they are better men? How many now attend a place of worship when in a foreign port, and able to get on shore? Is this no proof that there are better men among them? Formerly it was a rare thing to find a sailor that could read or write. Now it is beginning to be the rule; all are learning to do both, and do it well. Like every other body of men, sailors are advancing with the times, the education of the boys coming into the service is far superior to the education—if he had any—of the sailor of twenty-five years ago. What must it have been double that time past? The sailor is in a state of transition to a higher life in this world. Sailors are less given to blasphemy and swearing than formerly, and why? because those whom God has placed over them have given up the practice, if they ever indulged in it, as derogatory to themselves as men and Christians, and offensive to the Almighty, who has distinctly said, “Thou shalt not take the name of the Lord thy God in vain.” Example does and will work wonders; it is for the British shipmaster to rise to his position and to be equal to it. Begin at the right end; you cannot fill a sailor or anyone with religion, and make him pious, with all the best intentions in the world, unless you first see to his temporal

interests. It is useless to tell a man that is starving, that God feeds the sparrow, and therefore He will feed him, and pass on. But put your hand into your pocket and give him a shilling to satisfy his hunger, he will believe you, and thank God for sending you to him in his necessity. If it is true, as "W. C. S." asserts, that of the sailors now in British merchant ships, seventy-five per cent. are foreigners, it is a very sad and dangerous state of things, and it is the duty of the Government in some way to put a stop to such a destruction of the British sailor. It is the duty of every shipowner and shipmaster to set about rectifying such a lamentable falling off in one of the sources of England's strength and security.

We are entering on momentous times. The mighty hosts on the Continent, trained to arms and bloodshed, chafing at the continued peace of Europe, are ready to fly at each other's throats and grapple each other in the grasp of death. There is no one man at present who has the courage, or rather the wickedness, to commence. All that is wanted is a pretext slight as a cobweb, frail as a snow-flake, flimsy as the finest thread of silk, and in a moment war may be declared; once declared, who can say how many or how few nations may be brought into the struggle; much less could any one foresee the result. There is a dread and unrest in all European countries that is puzzling the most astute statesman to clearly give a name, because they dare not face their own conclusions; it is this, that men are beginning to think deeply, and to see things as they are, and not as tyrants and despots would have them; they are ceasing to believe in the divine right of kings to do evil, or in the necessity of keeping up armies to murder their fellow men, and deface man, created in the image of his Maker, by shot, shell, sword, and rifle bullets. Men are beginning to see clearly the difference between right and wrong, to tear away the false glitter and the coverings of tinsel that overlay the latter; to admire

right in all its severe beauty, and to see wrong where it exists in all its native ugliness; and to detest it, to follow right where it leads, and above all to look upon all men as brothers, as part of one great human family, to be treated as such and not as enemies, and not to be led to slaughter each other at the bidding of any human fiend, however exalted in the world's estimation he may be. It will be many, many years before these grand principles are fully carried out and acted upon. When that time comes there will be no need of fleets and armies, but until it arrives we must be prepared to resist invasion and wrong, and the best way to prevent the occurrence is to be prepared to resent it. England mainly depends upon her Navy for protection, the Navy depends upon the Merchant Service for its sailors, the British sailor looks to the British shipmaster to protect him against the influx of foreigners into English merchant ships. Is the British shipmaster going to stand aloof and say, I will have nothing to do with English seamen, but will have aliens in my ship, I care not what the consequences may be? I ask you brother shipmasters who prefer aliens to British seamen to carefully think over this subject, for it concerns you deeply, inasmuch as it is a question of vital importance to England. Will you go on encouraging the foreigner to the destruction of the British sailor, endangering the safety of the Navy, and consequently the safety of England. Will you not say, each and all, it is my duty to do all I can to make the British sailor what he ought to be, to refuse to employ aliens, and do my best to maintain Country, Queen, and Constitution from hostile touch. "W. C. S." seems to rejoice in his statement that there are seventy-five per cent. of foreigners in British merchant ships. In my opinion it is a cause for deepest sorrow. I have been told there is a large shipowner in England, the name has been freely mentioned, but I prefer not to put it on paper, who will have no one in his ships, as master, officer, or seaman, but foreigners. I trust



this is an exaggeration. I can hardly think there lives an Englishman, so deep a traitor to his country, so false to all that is noble and patriotic, so lost to all sense of the evil he is doing, as to be guilty of such conduct. Can it be that he gets these men cheaper than he would Englishmen ; and so, for greed of a few extra pounds a year to spend on his own selfish luxuries, he will be the first to set the example of risking his country, by ruining those who defend it. If so, he is a monster that good and true men will look at and wonder. Should a war break out with a European power, all foreigners in command of British ships will immediately take them into the enemy's port and sell them. The insurance companies had better be wise in time, and refuse to insure an English ship commanded by an alien, as it is quite certain this will be the result.

I ask the British Government that has almost driven us mad by legislation and legislation, will it not protect the British seamen and by doing so protect England. Will it order the sailor lime-juice and water, with a dash of rum in it just enough for a smell ; and not interfere when his very existence is concerned. What is to be thought of a Government that concerns itself about the few valueless old clothes left by a deceased sailor, but will not lift its hands, or use its power to save the living sailor from destruction, when those sailors as a body, are its greatest protection, and cause of all England's prosperity and security.

Brother Shipmasters, for the sake of all you hold dear, for wife and children, for your country, that England may always remain free and independent as she is at the present day ; for liberty of conscience, for right to act as free and independent members of the freest country upon earth ; for your Queen, for her who has been and is the best and truest Sovereign England ever saw ; for him who shall succeed her when she has passed away, and who is dear to the hearts of every true Englishman ; for our very existence as a nation,

refuse aliens in your ships. Stand true to the British sailor, forgive his faults, and foster his good qualities; so that should a time come—and who knows how soon—you may have the satisfaction of knowing that in a great measure you have been the means, under God's blessing, of raising a large body of men to be better than those who preceded them, and men who will, like those at their country's call, rise up as one man and say to any foreign power—"You must pass over our dead bodies before you can lay a hand upon that which we hold most dear."

HENRY FAITHFULL.

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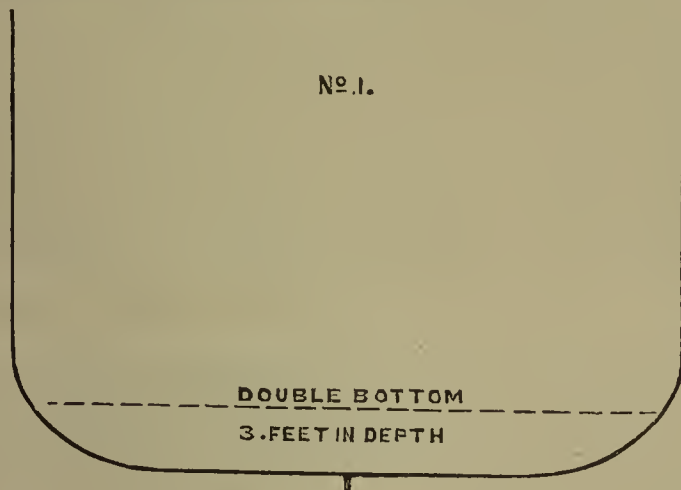
## ON SHIPS AND GRAIN CARGOES.

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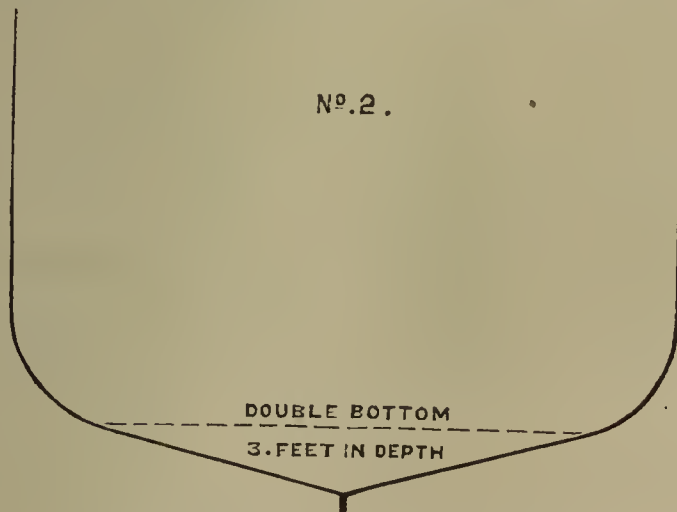
IN perusing the February number of your Journal on "Why do Cargo Steamers Founder," I have carefully read over all the arguments of the various shipmasters on the subject, and have paid particular attention to the double-bottomed ships and the grain cargo discussion. But there is one point in all that has been adduced not yet touched upon, and which in my opinion is entitled to some little consideration. That is the formation of the ship's bottoms.

As a great many steamers are built with very flat bottoms, in fact a dead flat and very little keel, not more than 6 or 7 inches, and some without any keel, no doubt meant to carry a heavy cargo upon a light draught of water, it stands to reason that if those ships have double bottoms they cannot by any means be safe in bad weather, whether loaded or in ballast, whereas another ship having a good and reasonable rise of floor (and as a natural consequence a good hold on the water) will be stiff and seaworthy even with a double bottom, provided the depth of the double bottom is confined to a reasonable proportion according to the height or depth of the ship.

Without occupying too much of your space and time by describing more minutely those two different qualities of ships which at a glance will be apparent to all seafaring men of experience, I send you accompanied three rough and ready pen-and-ink sketches of what I allude to and mean.



All illustrations of whatever nature or kind should to some extent be exaggerated, on purpose to bring to the mind's eye more clearly the design or proposition. In my feeble attempt at drafting ship's bottoms, I think I have kept within the bounds of moderation. I have already hinted that this point in the discussion is entitled to some little consideration, but on second thoughts I am emboldened to say that they merit a great deal. As a sailor of some forty-nine years standing, thirty of which having been spent in command of every description of vessels, from a schooner of 130 tons to ships of 1,400 tons, I object *in toto* to a ship loaded with a grain

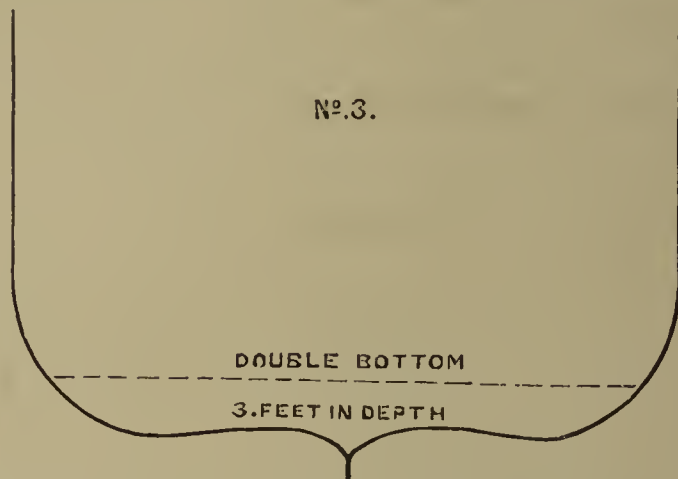


Scale  $\frac{1}{16}$  of an inch to the foot.

Ship or steamer 34 feet beam ; 24 feet depth of hold.



cargo in bulk, no matter what her construction may be ; but in a ship with a fair rise of floor, as in Fig. 2 and 3, I should



have no objections to load half a cargo in bulk, provided the other half was in bags or other solid packages above. As regards the flat-bottomed ship either with or without the false bottom I ignore altogether, as she is only fit to travel on the canal.

Regarding another source of danger screw steamers are exposed to, as a rule all of them are too long in proportion to their beam, and their lines consequently too straight—not a single curve to be seen except a very small portion at the fore and after sections which some builders are apt to call the entrance and run. Besides, these vessels require to be so much deeper in the water aft than at the fore on purpose to give better effect to the screw. Now, the great danger those ships, when loaded, are exposed to is being pooped. While running before the wind in heavy sea, their long straight sides cause a sea to rise and follow after them where otherwise no such sea would be, and very frequently the afterpart of those ships is under water. No doubt length gives speed, but therein lies the danger when it is carried to such disproportions as we see in ships now-a-days and every day. The public are ignorantly in fault in this respect as well as the shipowner. Everyone is crying and looking out for speed, speed, and the shipowners, on purpose to meet the wants of this universal cry, are vying and competing with

each other to see who can convey goods and passengers the quickest. When a ship or steamer is only partially loaded or say within one or two feet of her load water-line, it is all plain sailing and not much to risk or fear, but my argument is based on a deep-loaded ship.

In following up the argument, that is to say, when a steamer is running in a gale of wind with a heavy sea and in danger of being pooped, the next best thing to do is to try and bring her head to the wind, which, as every sailor knows, is a very dangerous manœuvre requiring some skill, judgment, good nerve and clear head. But in all screw steamers whose sterns are so much deeper in the water than the bow they will not face either the wind or sea, but continually fall off not only till they bring the wind and sea on their beam, but very frequently on the quarter, a more dangerous position for any deeply-laden ship to be placed in is impossible to conceive. The whole of these long, narrow-gutted ships, whether sailing or steam, are to all intents and purposes simply *floating breakwaters* when placed in such a situation. Such was the state of matters in the case of the *Great Eastern* when she encountered that gale of wind to the westward of Ireland; when her paddles were washed away; her stern-post wrenched and split, and when all her cabin furniture and passengers' luggage was smashed up into matchwood and pulp, and all other kinds of damage. The attempt was made to bring her head to the wind, or nearly so, and notwithstanding the after sails being set and the helm lashed hard-a-lee, it all failed to accomplish the end so much desired. The firm hold the stern had of the water by the disproportion in the length of stem and stern-post was the cause of all that destruction, and she laid like a log wallowing in the trough of the sea unmanageable, and at the mercy of the seas.

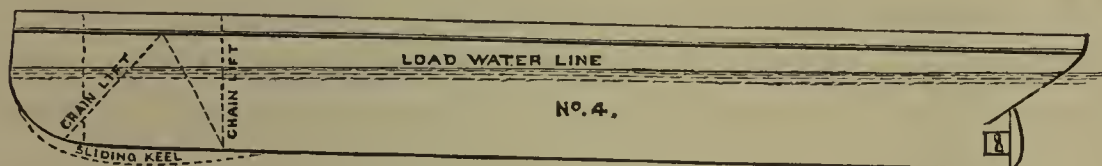
And now, Mr. Editor, if I have not trespassed too far on your space, and will kindly grant me a little more indulgence,

while I have been trying to deal with two very great drawbacks in connection with our trade and commerce, I will endeavour with your leave to suggest a remedy for those evils. In the first place I would strongly recommend that no ship of any description going an oversea voyage should carry grain cargoes in bulk, but how this rule is to be universally observed without the help of the underwriters coming to our aid by fixing an extra premium on bulk cargoes I am at a loss to know, as foreigners will not hesitate to run all kinds of risks so as to steal a march on the Britishers, when they get a chance.

The next evil to be dealt with is the construction and build of our ships. The great stumbling block on that point is the straight up and down stern-posts which make all our long clipper ships so constructed leewardly upon a wind, many of them unable to hold their own or turn to windward in narrow waters. As I have already treated very fully on that subject in the *Nautical* for November, 1877, I need not recapitulate them here any further than by again simply stating that the stern-posts of all sailing ships should have a rake so as to shorten the keel, viz., a ship whose length is five times her breadth should have one inch of rake for every foot of the length of the stern-post ; for a ship six times her breadth, one and a half inches, and so on. That is a very easy matter to accomplish as far as sailing ships are concerned. But now the great difficulty that concerns us is with the screw steamers. To interfere with the up and down stern-posts is next thing to impossible. Then the only other remedy that suggests itself, in my humble opinion, is a sliding gunter keel under the forefoot, which, according to fancy, might be called a weather board, say ten, fifteen, twenty, thirty or forty feet, according to the length of the ship ; and say two feet in depth, tapering off at both ends, This would necessitate the construction of a trunk way from the keel to the upper or spar-deck, and which could be easily



worked by one or two small jipsy winches, and lowered down or hoisted up at pleasure to any depth required. Another pen-and-ink sketch of the above design I have much pleasure in sending you accompanied. It is difficult on so small a scale to give a good illustration, but hope it will answer the purpose intended.



$\frac{1}{64}$  of an inch to the foot.

Fig. 4 represents a screw steamer loaded and down to her marks.

Length on deck, 238 feet.

Breadth of beam, 34 „

Depth of hold, 24 „

The lines attached to the sliding gunter keel represents two different plans by which it may be lifted and lowered down, either by one winch or two.

No doubt shipowners, who are not of the sailor breed, would cry out against this innovation, and say it would interfere with the stowage, and make the ship carry so much less cargo, only infinitesimal after all. But in the event of a breakdown, which sometimes happens, the steamer would reap this advantage. She would be able to hold her own close-hauled on a wind, instead of bagging off to leeward with a lee helm; and where life and property is so much at stake surely some such kind of appliances might be adopted with very little extra cost.

There you are, Mr. Editor, my yarn for the present is spun out. If you think it worthy of being put on the stretch before your intelligent Committee, I shall esteem it very much and consider it an honour, and beg to remain,

Yours very truly,

ALEX. MURDOCH.

CASE OF THE S.S. "ARIZONA."  
COURT OF APPEAL.

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MASTERS and Officers of the Mercantile Marine will rejoice to hear that the long sought for Court of Appeal which was provided by the Shipping Casualties Act of 1879, has at length been called into service, and with a result which will no doubt act as a check upon the judgments arrived at by the various Courts, and cause their decisions to be more in conformity with common sense and nautical opinions. Very recently, as will be seen in our tabulated list of official inquiries, the Court in Liverpool was called upon to investigate the circumstances attending the damage done to the s.s. *Arizona*, by collision with an iceberg. The finding of the Court was to the effect that, "it had no fault to find with the navigation of the ship, except to repeat the remark with regard to the master, that they had already made as to the station of the look-out men, viz., that the skid-bridge was not a proper place on which to station the look-out. For this the master was solely responsible, and there was nothing in the state of the weather to render it necessary that they should be placed on the skid-bridge. The circumstances of the 'whaleback' having just being painted was no reason at all worthy of consideration. . . . Master's certificate, and that of the second officer, suspended for six months."

Notice of appeal was given, and in due course the arguments against the judgment were heard in the Admiralty Court, when the following decision was given in favour of the appellant :—

Sir James Hannen, in delivering the judgment of the Court, said :—" With regard to the first matter pressed by Mr. Clarkson, I take it that the finding of the Court below

is not a finding which brings the case within the terms of the section of the Act which has been referred to, inasmuch as it does not find that the casualty was occasioned by the fault of the master. We have, therefore, only to say that we do not consider it necessary to determine this point upon the present occasion, because we are of opinion that, putting that construction upon the language of the finding which we think ought to be put upon it in order to make it a complete expression of opinion upon the part of the judge below, I should interpret it as though it had been stated that the fault or the default upon the part of the master was the cause of or contributed to the casualty. But we are of opinion that upon the facts it does not appear that there was any default upon the part of the master which did in fact contribute to the casualty. Of course, though I have said we do not think it necessary to determine the question of law now, it is undoubtedly a fact worthy of observation that neither in the formal report nor in the reasons given did the learned judge state anything from which it can be inferred that he entertained an opinion that the default of the master was the occasion of the casualty. The manner in which it is dealt with tends rather to show that his mind was running in a different direction, and that he was expressing only a general opinion upon the importance of there being the best look-out at all times; and he has expressed an opinion that the master had not, in fact, used the best judgment he could in the matter, and that the look-outs were not placed in the best position. It is not necessary to express any positive opinion upon that point. It may have been that if this had been the first investigation of the case, those gentlemen who assist us now might not have taken so severe a view of the master's conduct as has been taken; but accepting the finding of the court below in its entirety, we have come to the conclusion that the blame that is attributed to the master did not contribute to the casualty in question. It appears



from a consideration of a variety of facts in the case that where the men were on the skid-bridge they had an opportunity of seeing before them, which opportunity was diminished only in the range of their vision by the foremast, and further diminished to the extent that the stem head would obscure a portion of the sea in front of the vessel; but for all other purposes the means of look-out were the same as if they had been on the whale back. It is clear, without attempting to form any accurate judgment as to the precise time that elapsed between the seeing the object which has been mentioned and the stopping and reversing the engines, the men on the look-out in the place in which they were, did see the object for a considerable time. They saw the object for an appreciable time before the mate saw it; and it is clear that, instead of doing what it was their duty to do—at once to call attention to something which was out of the ordinary course of things—they consulted with one another, and the language, which it is proved they used, tends to show that their eyes had been upon the object an appreciable time before the collision, because when the mate called out, which must have been a minute after he had seen it, their joint answer was, 'That is ice—we think it is ice;' showing that they had been deliberating upon the object, and, as I said before, it being clear that they had seen it an appreciable time before they gave warning of it, being in a position that did not prevent their seeing it. It was impossible for the officers to have seen it. The cause of the collision was that the look-out did not give warning of that which turned out to be an iceberg. The truth of the matter is that the look-out themselves did not contemplate the contingency of falling in with an iceberg; and, too long, they gave themselves up to the belief that it was a cloud, and the form of the iceberg was not noticed. For these reasons we are of opinion that, treating the judgment as being that the default of the master caused the collision, that

is incorrect, and we reverse the finding that the certificate should be suspended, and we think that the certificate should be at once returned."

Sir Robt. Phillimore: "I am of the same opinion. I think it is incorrect to say that the master had by his conduct caused or contributed to the collision. I am of opinion that the evidence has shown that he did not cause it. And, in addition to the remarks of the President upon that matter, I would observe that the look-out did see an object ahead, but unfortunately instead of at once reporting it to the officer of the watch, valuable time was lost. The look-out are not before the Court, but the master is, and he is said to have caused the collision. It appears that valuable time was lost, not by any default of the master, but by the look-out, and not by their being wrongly placed."

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## THE TRINITY HOUSE CORPORATION.

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IT affords us great pleasure to announce that Captain Wm. Woolcott, of the P. and O. s.s. *Pekin*, has been elected an Elder Brother of the Trinity House Corporation.

The selection of so experienced a commander, and one who is held in universal respect, cannot fail of being appreciated by the Service, and we now beg to offer our hearty congratulations to the worthy gentleman on his new appointment.

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OFFICIAL INQUIRIES WHERE  
Reported since

| Ship.  | Casualty.   | Loss of Life. | Inquiry.   |
|--|---|---------------|--|
| <i>Zui</i> ... ..                                    | Wrecked off Port Nicholson, 23rd November, 1879.              | ...           | Wellington, N.Zealand :<br>Magistrates,<br>2nd December, 1879. |
| <i>Radnorshire</i> , s.s. }<br><i>Paria</i> ... .. } | Collision near Cape Bon,<br>9th January, 1880.                | ...           | Malta :<br>Magistrate,<br>26th January, 1880.                  |
| <i>Baltic</i> ... ..                                 | Stranded near Porthcawl,<br>12th February, 1880.              | ...           | Swansea :<br>Stip. Mag.,<br>5th March, 1880.                   |
| <i>Arizona</i> , s.s. ... ..                         | Damaged by Iceberg in<br>the Atlantic, 7th<br>November, 1879. | ...           | Liverpool :<br>Raffles, Stip. Mag.,<br>6th March, 1880.        |
| <i>Zingara</i> ... ..                                | Wrecked on Cumberland<br>Coast, 24th January,<br>1880.        | ...           | Whitehaven :<br>14th February, 1880.                           |
| <i>Sea Nymph</i> ... ..                              | Lost on Debol Sands,<br>22nd February, 1880.                  | ...           | Middlesbro :<br>12th March, 1880.                              |
| <i>Shah Jehan</i> , s.s. ... ..                      | Stranded off Kumbari<br>Bay, 6th February,<br>1880.           | ...           | Bombay :<br>5th March, 1880.                                   |
| <i>Durley</i> , s.s. ... ..                          | Stranded off St. Vincent.                                     | ...           | Swansea :<br>27th March, 1880.                                 |
| <i>Margaret Craig</i> ... ..                         | Abandoned on the Coast<br>of Chile.                           | ...           | Valparaiso :<br>H.B.M. Consul,<br>11th February, 1880.         |



## CERTIFICATES HAVE BEEN DEALT WITH.

1st March, 1880.

| Nautical Assessors.                    | Finding of Court.                              | Decision.  |
|--|--|--|
| Metcalf.<br>M'Gregor.                  | Culpable neglect.                              | Master's certificate suspended for 3 months.                                 |
| Geo. Raymond, R.A.<br>S. Staines, M.M. | Chief Officer of <i>Radnor-shire</i> to blame. | Certificate suspended for 6 months.  |
| Ward.<br>Hight.                        | Drunkenness and total incapacity.              | Certificates of Master and Mate cancelled.                                   |
| Holt.<br>Foster.<br>Beazley.           | Master and Second Mate in default.             | Certificates suspended for 6 months.<br>Judgment appealed against.           |
| Harris.<br>Wilson.                     | Master in default.                             | Certificate suspended for 3 months.  |
| Beazley.<br>Sceales.                   | Carelessness.                                  | Mate's certificate suspended for 3 months.                                   |
| Smith, M.M.                            | Neglect of lead.                               | Master's certificate suspended for 12 months. Second Officer's for 3 months. |
| Powell, R.N.<br>Harris.<br>Curling.    | Unseamanlike navigation.                       | Master's certificate suspended for 3 months.                                 |
| Elliot.<br>Marshall.<br>Swinton.       | Careless navigation.                           | Master's certificate suspended for 12 months. Chief Mate's for 6 months.     |

## CORRESPONDENCE.

*To the Editor of "The British Merchant Service Journal."*

SIR,—“W. C. S.” having again attacked our “British seamen” in his ill-timed, and I may say, ill-advised article in your number for March, I must beg your kind indulgence to hear a word from the other side.

He commences his letter with reterring to the “petition” presented by Captain Bedford Pim to the House of Commons from the Amalgamated British Seamen’s Protection Society, in May last, and he remarks that “the burden of the said petition seems to be more pay and less work in some shape or other.” This may be so in the eyes of “W. C. S.,” and if “comfort and content” on board ship can be classified as pay, “*i.e.*, wages,” he is undoubtedly right in his remark, but I fear he would not consider his own wages as a master raised any, even if the owners of his vessel were to keep the ship well equipped, manned and found, his berth from leaking, or a foreign master from taking the bread out of his mouth; it would certainly increase his comfort and make him more contented, but would not be an increase of “wages” in any shape, therefore “W. C. S.” is wrong in supposing that the seamen’s petition had any reference whatever to pay. On the contrary, any allusion to wages has always been carefully avoided in any of our petitions, as we know as well as “W. C. S.” can inform us, that the House of Commons cannot interfere in the question of wages to merchant seamen any more than to any mechanic on shore, but he must admit that as the Mercantile Marine is governed at present, and with the prospects of shipping legislation hanging over our heads during every session of Parliament, our only remedy is by petitions to those who frame our laws; whether those laws, as they stand at present be good or bad, is another question in which I fear opinions differ greatly, and a question which could not be

fully discussed in the limited space allotted to correspondence in a monthly journal. It is, however, quite evident that neither "W. C. S." nor the British seaman think they are in anything like a state of perfection; but this unanimity between us no doubt in many instances emanates from quite opposite opinions, each side being guided by their own personal experiences. "W. C. S." evidently does not know quite as much of the A. B. S. P. Society as the Society knows of him, or he would have known that we are of his own opinion, viz., that the action of Government in former years upon our Shipping Laws has harassed our "Mercantile Marine," and, as he remarks, "brought on the necessity of the petition," which, by-the-bye, was again presented to the "House of Commons," in a revised form, last January. And he evidently knows nothing of our members, or he would not speak of the British seamen as he does; in fact, it seems a puzzle how he can know much of British seamen, when he carries foreign crews himself. He says, in reference to the paragraph in the petition dealing with the food supply, that "sailors can at any time demand a survey of the stores of a ship," but would it not be far better if the necessity for such extreme measures on the part of the crew were obviated altogether by the simple plan now in force with emigrant ships, viz., an inspection of provisions "before" a ship leaves port.

How can a crew call a survey upon food which they have neither seen nor tasted? Sea stores are not taken into use until a ship has actually started on her voyage, and the bad provisions seldom make an appearance until safely at sea, and consequently beyond reach of a survey until she arrives in port somewhere abroad, and seamen know pretty well that surveys out of the United Kingdom are, in nine cases out of ten, decided against the crew, unless they can secure the unbiassed assistance of one of H.M. ships. As I am writing this I am supplied with



samples of the food served out in one of our large sailing ships just returned from China. I have seen as bad, and regret to say, have had to put up with as bad myself. But that was some years ago, and I was under the impression that things had mended a little since then. But to my regret, I find that the samples referred to, are, to use a mild expression, simply of the worst quality. The biscuits being musty and full of maggots and other insects. The meat putrid, and the sugar the dirtiest mixture of foot sugar and molasses, &c.; this kind of food being served out coming up channel, after the ship had laid more than a week in Falmouth windbound. "W. C. S." further says: "The Society can make a new scale of provisions, and submit it to shipowners, &c." This has been done years ago, and a suggestion for a new scale was published in the *Navy* and other papers. The existing scale was only intended as a limit, and would virtually be a dead letter if owners, masters, and seamen, would study one another's interest a little more than is the case at present, and I am glad to say that some owners and masters scorn the idea of limiting their crews to "their whack and nae mair." They are too numerous to mention in this letter, but among them are the firms of Messrs. Wigram, Green, Devitt and Moore, Donald Currie & Co., and many others, even the once much abused ships belonging to Mr. Edward Bates, M.P., have gained a name for "good living," and when we petition, we do not speak generally, but say, "in many cases," and it is through such cases that we are obliged to petition. The same argument applies to "forecastles," and in the firms mentioned, as in many others, the comfortable berthing of seamen is as far as practicable attended to. I have just been told that the forecastle of the s.s. *Italy*, of the National Line, would put many a passengers' cabin in the shade being comfortably and tastefully fitted, and the men evidently appreciate the boon as the same crews go in her voyage after voyage. "W. C. S." advises those seamen

who are not willing to submit to the hardships incident to their profession—we presume the hardships complained of in our petition—“to find another profession and not go to sea.” It appears from the thousands of good seamen working at stevedoring, rigging, in the fire brigade, the police, and here, there, and everywhere, that they have thought so themselves, long before “W. C. S.” made the suggestion, and whom, I fear, are irrevocably lost to our “Mercantile Marine.” “W. C. S.” finishes up with advising the British sailor “not to put his trust in Governments, Plimsolls, or Pims.” Very well meant advice perhaps, but I can assure him that we would rather put our trust in either or all of the parties mentioned than we would either take advice or put our trust in “W. C. S.,” who has already on more than one occasion, “openly avowed his scorn for the ‘British seamen,’ and his decided preference for foreigners being employed in British ships, not only before, but also abaft the mast.”

Having, I fear, trespassed upon your space more than I originally intended, I conclude by thanking the “Shipmasters’ Society” for their courtesy in giving us the privilege of replying to any letter likely further to damage the reputation of the few British seamen still left in the service.

Yours faithfully,

WILLIAM PATERSON LIND,  
General Secretary Amalgamated British Seamen’s  
Protection Society.

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#### GRAIN IN BAGS.

*To the Editor of the “British Merchant Service Journal.”*

SIR,—I note by the English papers that a meeting has been held at the Westminster Palace Hotel, London, whilst I have been on my last voyage, to support Mr. Plimsoll’s Bill to oblige all vessels to carry the whole of a grain cargo in bags. I hope, however, that Messrs. Glovers and any other shipowners or merchants will do all in their power

to prevent the Bill from passing. Any steamer or sailing vessel that I've been in will not stand up with all the cargo in bags (without ballast), nor will a vessel stand up with any cargo that will fill her with the same weight of cargo throughout. On my last Montreal voyage, I had my lower holds nearly full of bulk 'grain, with four tiers of bags on top, and the 'tween-decks nearly full of grain in bags (in all 17,000 bags), the upshot was that the ship had only 50 tons of room left in the between-decks. The bags shifted on the passage, and we had just room enough to trim the ship upright. If we had had all our cargo in bags there would have been no room left to trim the ship upright, and she might have been lost with all hands. Again, on my former voyage to Baltimore with a full cargo of salt in sacks, the ship was as full as an egg, and was so tender that I was obliged to run the ballast-tanks full to make her safe. I don't think Mr. Plimsoll, or any other man, can secure grain cargoes better than they do at Baltimore, by filling the lower-holds with bulk grain, and making three or four feeders to each hold. I beg to state that the only grain cargo I have seen shift has been the bags in the between-decks. I therefore hope that Mr. Plimsoll's Bill will not pass.—I am, Sir, &c.,

A. TYSON, Shipmaster.

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## ON CAUSES OF UNSEAWORTHINESS IN MERCHANT STEAMERS.

By B. MARTELL, Esq., Chief Surveyor of Lloyd's Register of British and Foreign Shipping, Member of Council.

(*Read at the Twenty-first Session of the Institution of Naval Architects,  
17th March, 1880.*)

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THE loss at sea of many steamers during the last few months, involving great sacrifice of human life and immense destruction of property, has drawn more than usual attention to questions of safety in the Mercantile Marine.



The probable causes of such calamities have been scanned from different points of view, and the possibility of more adequately providing against similar losses in the future has been strongly and rightly insisted on.

As too often has happened before in many of the recent disasters, all hands have perished, so that no certain information has been obtainable to indicate the cause of loss, and we are therefore left to draw conclusions as best we can by deductions from general experience and circumstances, and the facts elicited from survivors who have been providentially saved from some of the vessels that have foundered.

Information of the latter kind would be invaluable if we could always depend upon its accuracy, and on the absence of exaggeration. Few men, however, at moments of extreme danger, have either the coolness or the leisure to note correctly what is passing around, and whose memories can be trusted to convey afterwards an exact narrative. At least that is my experience after many investigations. This it is which in a measure leads to so many conflicting opinions, as we see daily in the press, and hear in shipping circles.

There are, however, some facts which stand out only too clearly as elements of danger, and to these I hope to draw your attention, as well as to some others of importance, though perhaps not in so great a degree. And I think I shall be able to show you that some important misconceptions exist as to the causes of loss, which create unwholesome prejudices and do positive injury by withdrawing attention from the real sources of evil. It will be well perhaps in the first place to run over a list of the several causes assignable for shipping disasters before discussing their relative importance.

1.—Weakness of structure from deficient scantlings, combined with faulty construction in arrangement and workmanship, together with inferiority of material.

2.—Deterioration, causing local defects and unseaworthiness.

3.—Absence of proper control over cocks, valves and pipes connecting the engines and boilers with the sea. Also a want of proper arrangement of bilge pump suction, and of suction pipes from sea and bilge, whereby water, from inadvertence or carelessness, can be run from the sea into a vessel.

4.—Faulty and deficient pumping arrangements, preventing the accumulated water being pumped from the wings in turn of bilge, after a vessel, from shifting cargo or other cause, has become inclined.

5.—Breaking down of machinery, and the consequent falling off of the vessel into the trough of the sea.

6.—Bad navigation—leading to collision or vessels running ashore.

7.—Inefficient protection of openings in the deck.

8.—Hasty and improper loading, particularly of grain cargoes in bulk, and deficiency of shifting boards or bulkheads, or other means to prevent cargo from shifting.

9.—Disproportionate dimensions of steamers, combined with undue height of double bottom, thereby causing, with some description of cargoes deficiency of stability.

10.—Overloading.

Of the foregoing sources of danger it is not too much to say that all have, at some time or other, claimed their victims, but in connection with recent disasters special prominence has been given to the last three or four, and as a full consideration of all the causes I have named would extend beyond the necessary limits of this Paper, I purpose dealing principally with these latter, while at the same time glancing briefly at the others in the order in which they are named.

1.—As regards structural weakness and inferiority of materials used in building cargo-carrying steamers much has been publicly said and written respecting this, both by those whom it was right to assume had some knowledge of the subject, and by others who had little or no acquaintance with ship construction, and the inference which some of these persons desired to have drawn respecting the unknown losses of many of these vessels was, that they broke in halves from inherent weakness and so disappeared in mid-ocean.

It may, however, be said that these conjectures are not founded on any *known* evidence, and that on the other hand, from the experience of hundreds of similarly built vessels, as well as from scientific calculations, it is easy to show there was abundant structural strength—and, besides this, amongst the items of information which have been gathered from the unhappy survivors of some of these vessels which have foundered, there has not been a particle of evidence in this direction but it has invariably pointed to other causes of disaster which will be hereafter alluded to.

From all the information I have been able to obtain from outside sources on this side of the Atlantic and the other, and from my own experience and that of our large staff of Surveyors whose duty it is to carefully survey all classed vessels on their arrival home from foreign voyages, I am justified in stating emphatically that the causes of these recent losses must be sought elsewhere than in the want of structural strength.

2.—That danger sometimes arises from local deterioration has been abundantly shown by experience, and the names of the *Magæra*, *Atlantic*, and others, will readily occur to every one in proof of this. It is also fully recognised that this danger has been rapidly diminishing since the practice of cementing the inside of iron ships has become universal, and since it has



equally become an object with every one to make all parts of the structure easily accessible.

Instances could of course be adduced where, owing to inferior cement being used, the plating of the bottom,  $\frac{3}{16}$ " thick, has been eaten through from the effect of a sugar cargo within six months from the date of launching.

I may instance that only within the last few weeks an iron vessel which had carried sugar cargoes amongst others was found to have as many as eighty of the iron floor plates eaten through, and which had either to be renewed or made good by doubling plates.

The effect of galvanic action is also sometimes observed from the contact of copper pipes or roses with the outside plating, where the latter is not properly protected by cement.

All these instances I need hardly say show the importance of careful periodical surveys, particularly in vessels which were built before cement was generally adopted for the inside protection of the bottom plating.

3.—As regards sea cocks, much might be said on this head. There is no doubt that the loss of many steamers has in the past arisen from an injudicious arrangement of cocks, valves, and pipes in connection with the machinery and the sea. We have only to remember the loss of the *La Plata*, and the narrow escape of the *L'Amérique*, and other vessels which could be named which have mysteriously filled with water at sea, not to mention the cases of vessels which have filled and sunk in docks, to convince us that there have been, and still to some extent exist, silent dangers in the engine rooms of steam vessels, which require careful supervision.

This danger has doubtless within the last few years considerably diminished, as nearly all steamers now built have all cocks, valves, &c., in connection with the sea, fitted above the stoke-hole plates or platform, so that at all times they can be seen and kept in proper and safe working condition.

4.—Much greater attention has been found to be necessary, as to pumping arrangements, than was till lately thought requisite, so as to ensure adequate means of pumping the vessel out by the engines at any angle of inclination in which she may be placed. It is of the greatest importance that sufficient suction pipes should be led from the different compartments to the engine-room of steamers, and that these pipes should be connected not only to the bilge-pumps on the main engines, but to the donkey-pumps also, so that the whole of the steam-pumping power in the vessel may be applied whenever required. Where double bottoms are fitted for water ballast, attention is also now paid to the arrangement of suction pipes, so as to enable any compartment to be wholly pumped out under any condition



of the trim or position of the vessel. These have in past times been found common sources of inconvenience and of danger, for when a steamer was inclined and water had gathered in the bilges, it was not always the case that proper suction pipes existed to enable the steam pumping power to be used, and failing this, the water has continued to accumulate until the fires were put out and there were no means of righting or saving the vessel. It is only right to add that in steamers now being built this subject is generally receiving very careful attention.

#### 5.—Breaking down of machinery.

The greater experience acquired in the management of steamers has forced upon owners and managers the necessity of a special and careful examination of the engines on the return of the vessel from every foreign voyage, and the employment of superintendent engineers, in order to avoid the risk of a break down, and the attendant consequences which may follow, not only in the loss of the vessel, but of delay and cost in putting into foreign port for repairs.

Too much importance cannot be attached to this, as from the great proportionate length of steamers now built, the smallness of sail-power often provided, combined with the non-effectiveness of the rudder under sail alone while the screw-propeller remains attached, render it almost impossible to keep a vessel to any particular course, and hence the risk in falling off becomes enormous, with a low freeboard and small margin of stability. In having to encounter heavy seas under such circumstances, the danger can scarcely be magnified, and it arises, perhaps, from a slight casualty to the engines which by careful supervision before leaving port might have been obviated.

And here I may mention another point of great importance that leads to a similar danger to the foregoing, and has unfortunately led to many disasters. I allude to the too frequent breaking of rudder chains, or the disabling in other ways of the steering gear. Cargo steamers being often steered amidships from the bridge, the rudder rods and chains have to be led long distances, and sufficient care may not be taken in fitting the sheaves properly for the rods to work over, or the leads for the chains may not be so fair as they should be.

At any rate, from one cause or another, accidents in this direction have happened too often, and when from want of sufficient propelling-power to keep her course safely, which is too often the case, a slow, deep-laden steamer has to adapt herself to a course safe and practicable, this position and her safety depend entirely on the rudder not being disabled.

The strains at such times brought on the chains and rods are very severe, and unless the material and workmanship be exceptionally good, every blow

from a heavy sea becomes a trying ordeal, for if anything should give way nothing can prevent the vessel from falling off into the trough of the sea, and being placed in imminent peril. This has very recently been shown to arise even in one of the largest American liners. This vital part to the safety of cargo steamers is often, it is feared, paid less attention to than its importance merits.

6.—Bad navigation, leading to collisions, or vessels running ashore.

On this point I am not called upon to speak professionally. Indeed were it otherwise I should not feel myself competent to do so before an audience composed largely of naval officers. But that bad navigation prevails, and prevails largely, we see from the records of collisions in our newspapers and Law Courts, and the numerous findings of Courts of Enquiry that vessels were run ashore through the neglect of soundings and other preventible causes.

At the same time my experience leads me to believe that the officers of the Mercantile Marine have considerably improved of late years. Whatever may be said to the contrary, the examinations they have to pass to obtain their masters' certificates tend to raise the educational standard among them without impairing in the least their practical knowledge; on the contrary, a higher intelligence enables them more accurately to read the teachings of experience. It is fortunate that this is so, for as steamers grow in size and value from year to year the enormous value of the property and the number of lives committed to the charge of these men goes on increasing, as well as the difficulty of handling such monsters. When we come to consider other causes of loss arising from overloading and improper stowage, it will be impossible to acquit shipmasters of all blame, but it must always be remembered of them that, whatever may be their faults of omission or of commission, they always risk and too often have to pay the penalty of their lives in return for their mistakes, whether they arise from ignorance or inadvertence.

7.—I have mentioned the question of inefficient protection to engine and boiler openings and other openings in the deck, and this is one to which I have before drawn attention; but I fear due importance is not yet given to it. From want of due precaution in this, and in failing to provide proper coverings for stoke-holds and fastenings for coal bunkers, pipes, or hatches, many losses I feel certain have occurred.

When we hear of the funnel and ventilators being washed away in some of our largest passenger steamers, with decks 10 or 12 feet above the water, what are we to expect if proper attention is not given to these vulnerable parts in deeply-laden cargo ships, with a freeboard in some instances not exceeding 4 feet?



The demand for cargo steamers during the last year or two for the trying Atlantic trade, and the generally depressed condition of other trades, have caused many owners to send vessels across the Atlantic in mid-winter who doubtless would otherwise scarcely have thought such vessels suitable.

Perhaps it will tend to throw light on the development of steamers for the various cargo-carrying purposes, if we glance at the earliest steamers so engaged, and notice the alteration of types as they became increased in size and number.

The employment of steamers for special cargo-carrying purposes alone had its rise on the north-east coast for the coal-carrying trade, and from this type of vessel may be traced the various alterations throughout their development to adapt them to the general purposes of the trade for which they are now employed.

The earliest steam vessels built for the coasting trade were about 150 feet long, 25·6 broad and 15·6 deep. The more recent vessels employed in this trade have been increased to 220 feet in length: the only alterations of importance made in the later vessels in addition to increasing their size being to increase their relative fulness of form: whilst the earlier vessels had a co-efficient of tonnage fineness of ·72, many of the later ones have been increased in fulness to ·77.

As the steam-carrying trade became developed, and steamers became built for longer voyages in the Baltic and Mediterranean, greater length was given than in the earlier vessels, while all the objectionable features of extreme fulness of form and flatness of floor were retained. Two principal causes doubtless operated to retain these features in cargo steamers.

In the first place it was thought, the less the area of midship section to drive through the water under the same displacement, the less propelling power required. And secondly, that as steamers differed so widely from sailing ships in having no top-weight of heavy masts, and their stability consequently, when light, was so much greater, that there was less necessity to have a rise of floor to insure sufficient stability in shifting when discharged. Consequently the two great advantages were obtained in having a flat floor, viz., the reducing the draught of water with the same displacement, and the carrying the greatest cargo under the same principal dimensions, whilst being able to place the engines and boiler as low as possible. The result of this has been to destroy nearly all beauty of architectural form in a large proportion of sea-going cargo steamers, by producing an approximation to a rectangular prism, whilst at the same time, as will be shown, it has at last been the means of introducing a positively dangerous element in this class of vessel.



The full, flat-bottomed form for steam colliers was no doubt the most suitable for the intended trade, as the result of great speed was not so profitable as carrying a relatively large cargo. Moreover, the fitting double bottoms throughout the fore and after holds was also most economical and safe for such vessels, seeing they always carried similar cargoes, and were found by experience to have sufficient stability either filled with coals or with water-ballast alone. But it does not at all follow that vessels still further modified to suit general trades, where on one voyage they may carry iron ore stowed on the ceiling or inner bottom, and on the return voyage may be quite filled with grain or other homogeneous cargo, can safely be built of similar proportions and form, and similarly fitted with water-ballast tanks throughout as in their prototypes the colliers. The growth, however, of elements of unsafety in the design of sea-going cargo steamers can be clearly seen, and may, I think, be traced as follows:—

If we take a vessel of the same length as one of those recently capsized, and trace the alteration of type under which such vessels have grown from the flush-decked collier to the fitting of a raised quarter-deck and monkey forecastle, and subsequently the short poop, bridge-house and forecastle—and again the long poop or connection of poop and bridge-house, extending from the stern to the front of the engine-room; and from this to the spar-deck, and finally to the complete three tiers of beams, having the full scantlings to the gunwale; we shall be able to form an opinion of the relative safety of such types of vessels as regards their stability alone, under the various conditions of loading now in practice.

The vessels referred to, which recently capsized when loaded with cargoes of coal and grain, were all vessels having full scantlings to the upper deck, and were much alike in proportionate dimensions. Length, 245 feet; breadth, 33 feet; depth of hold, 23 feet.

Vessels of the same length as above, and from which it may be said the latter type of vessel has arisen, have been built 245 feet long, 32 feet broad, and 17 feet 6 inches depth of hold, having a long raised quarter-deck about 3 feet 6 inches above the main-deck. The draught of water when fully laden with coals would be about 16 feet 3 inches, and by careful calculation it is found that the metacentric height would be 1·5 feet, so that such a vessel could be inclined to an extreme angle of 66° before arriving at the point of vanishing stability.

If we go further, and take a long poop vessel of the same length—that is, one having the poop and bridge-house connected—we shall find the dimensions of many such vessels now sailing to be, length 245 feet, breadth 32 feet, and depth of hold 17 feet 6 inches. The continuous erection on deck, 7 feet high, would be about 150 feet in length, and the forecastle about 30 feet. With a cargo of coals below deck, and only a small portion

in the poop, such a vessel would draw about 16 feet 6 inches of water; and in this case the metacentric height is found to be 1·5 feet; so that this vessel, with a homogeneous cargo, such as grain or coals, would have her maximum stability at  $52^{\circ}$ , and a considerable righting moment at  $90^{\circ}$  inclination.

By going a stage further we come to the spar-deck vessel. This is, one having the scantlings determined by the height to the main deck, and above this height the scantlings somewhat lighter. The dimensions of some of these vessels are—length 245 feet, breadth 32 feet, and depth of hold to spar deck 24 feet.

Here the same beam is retained as in the former vessel, and the erection above the main-deck is made continuous by a complete deck all fore-and-aft.

It is customary to load such vessels to within a short distance of the main deck, according to the structural strength, &c., of the ship, thus leaving between 7 and 8 feet of freeboard from the spar deck.

The metacentric height of such a vessel loaded to this depth with grain or coals, assuming the hold to be filled and a portion only of the space to be filled between the main and spar decks, is found on calculation to be 0·8 feet, the angle of maximum stability being  $55^{\circ}$  with a large righting force still in reserve at  $90^{\circ}$  inclination, owing to the high freeboard of this type of ship, thus showing, as in the preceding cases, that such a vessel would if loaded as described have an ample margin of stability.

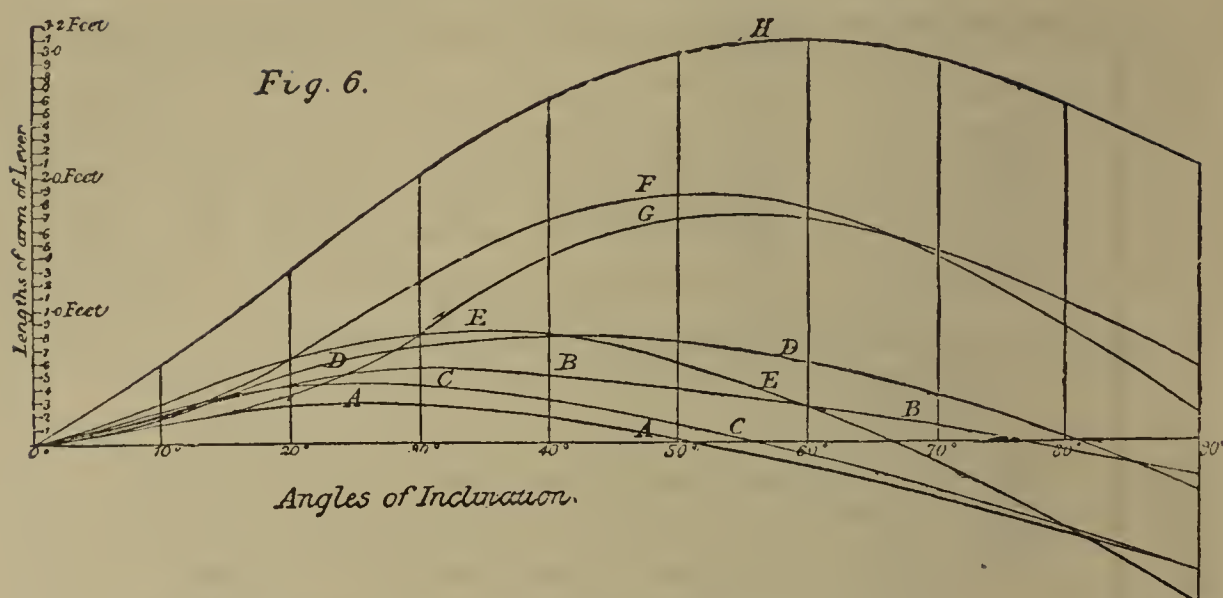
Coming now finally to the vessel of the same length, and whose scantlings are continued of the full size to the upper-deck, similar to the vessels referred to which have recently capsized, and whose dimensions, as before stated, were, length 245 feet, breadth 33 feet, depth of hold 23 feet, it will be observed that this vessel has one foot more beam than the spar-decked vessel, but a very striking difference will, at the same time, be apparent in the practice of loading this type of vessel.

While the spar-decked vessel is supposed never to be loaded below the main-deck, and consequently has the space between the main and spar-deck only partially filled with cargo, the latter vessel is purposely increased in strength so as to admit of the main, or rather the middle, deck being two or three feet below the water. The effect of all this additional topweight in the vessel above the main-deck may be expected to render the stability small, and calculations show that the margin of stability under such conditions becomes dangerously low. In the case of the vessel I have been describing, whose constructed load line was within 4 feet of the upper-deck, the metacentric height was only 0·7 feet. In other words, if the cargo shifted sufficiently to incline her through even a moderate angle, she would be in imminent danger of capsizing; thus scarcely creating surprise that such vessels have capsized, and that this has sometimes occurred a few days after leaving port.

TABLE OF REFERENCE TO CURVES OF STABILITY.

| Reference Letter. | Description of Steamer.               | Register Tons under Deck. | Registered Dimensions. |       |       | Metacentric Height. | Maximum Stability at. | Maximum Righting Moment. | Righting Moment at 90°. | Freeboard.         | Condition of Loading.        |
|-------------------|---------------------------------------|---------------------------|------------------------|-------|-------|---------------------|-----------------------|--------------------------|-------------------------|--------------------|------------------------------|
|                   |                                       |                           | Feet.                  | Feet. | Feet. | Feet.               |                       | Foottons                 | Foottons                | Feet.              |                              |
| A                 | "Three-deck" vessel ...               | 1,402                     | 245                    | 33.3  | 23    | 0.7                 | 25°                   | 1,080                    | None                    | 4                  | Full cargo of coals or grain |
| B                 | Ditto, with 80 tons of water ballast  | 1,402                     | 245                    | 33.3  | 23    | 1.2                 | 32°                   | 1,860                    | None                    | 4                  | Ditto                        |
| C                 | Ditto, with 2 feet additional breadth | 1,450                     | 245                    | 35.3  | 23    | 1.3                 | 25°                   | 1,540                    | None                    | 4                  | Ditto                        |
| D                 | Ditto, with 1 foot more freeboard     | 1,402                     | 245                    | 33.3  | 23    | 1.3                 | 40°                   | 2,620                    | None                    | 5                  | Ditto                        |
| E                 | Raised quarter-deck vessel            | 1,050                     | 245                    | 32.3  | 17.6  | 1.5                 | 33°                   | 2,000                    | None                    | 3                  | Ditto                        |
| F                 | Full-poop vessel ...                  | 1,000                     | 245                    | 32.3  | 17.6  | 1.5                 | 52°                   | 4,460                    | 588                     | 3                  | Ditto                        |
| G                 | Spar-decked vessel ...                | 1,360                     | 245                    | 32.3  | 24    | 0.8                 | 55°                   | 4,800                    | 1,647                   | 8 ft. to spar deck | Ditto                        |
| H                 | "Three-deck" vessel ...               | 2,005                     | 285                    | 35.3  | 24.5  | 3.5                 | 60°                   | 11,800                   | 8,094                   | 6 ft. 6 in.        | Cargo of iron, spiegel, &c.  |





Curves of stability of the different types of vessel referred to are shown on the diagram, together with an explanatory table of reference, and the curve marked A, shows the stability of one of the "Three-deck" vessels referred to, loaded as I have described. It will be seen that it is exceedingly small and unsatisfactory. Curve C shows the effect which would be produced on this vessel by increasing the breadth two feet. The stability at moderate angles of heel is increased considerably by this step.

The effect which *depth of loading* has on the stability of the vessel is clearly seen by curve D, which shows that by increasing the freeboard one foot, and retaining the original breadth, a great gain in point of stability and safety is obtained even as compared with increasing the breadth two feet.

In this case, the maximum stability is increased from  $25^{\circ}$  to  $40^{\circ}$ , while the range of stability is extended from  $52^{\circ}$  to  $80^{\circ}$ .

From this it appears pretty evident that, whilst the types of steamers have been gradually altering through the stages described, from the flush-decked vessel of one deck and two tiers of beams, up to the vessel with two decks and three tiers of beams, or what is known as the "Three-deck" vessel, in each stage the topweight being increased and facilities afforded for deeper loading—the necessary stability has not been made commensurate with the requirement for the latter type of vessel, and hence there are a large number of cargo-carrying steamers now in existence of this class to which great care will have to be applied in loading, particularly the smaller ones, when they are conveying homogeneous cargoes, if the accidents with which we are acquainted are to be avoided.

The question, however, is not only how are we to deal with similar vessels in existence, but also how is the safety of this type of vessel to be improved in building others? One of the most essential changes is to increase the beam. Another of not less importance is to provide a greater freeboard.

And here it may be interesting to draw attention to other tendencies which have kept the relative beam of steamers small, in addition to the belief, as before stated, that a small midship section was an important element as regards speed. Steamers when light are stiff, compared with sailing ships, and when in ballast are uneasy, and tend to strain themselves if the beam is too much increased. They also have frequently to take in heavy dead-weight cargoes, and without the special arrangements for the stowage of such cargoes ordinarily adopted being carried further than at present, broader vessels would labour heavily. Considerations of this kind have tended to keep cargo steamers narrow, and as they frequently carry heavy dead-weight cargoes on one voyage followed by light cargoes the next, causing great differences in their stability, the design in most favour under such circumstances has been a compromise, in order to meet these various requirements.

The greater original cost, and the expenses in working steamers as compared with sailing vessels, have also made rapid dispatch in port a question of greater importance; the consequence of this has been that too little attention has been given to the stowage of cargoes of different specific gravity in steamers, and they have too often been supposed to be sufficiently safe, whether loaded with a cargo of iron ore on the ceiling, or filled with a cargo of grain.

No compromise, however, in form or proportions, will ensure immunity against laxity of this kind, and unless in loading them those who are in command exercise more intelligence as to the question of stability, and are guided more by experience, as has been the case with sailing ships, similar accidents will recur, whatever provision may be made to prevent them.

In consequence of nearly all the steamers which have foundered this winter being fitted with double-bottoms, it has been associated in the minds of many with the direct cause of these accidents, and viewed with disfavour by underwriters and others affected by these losses.

It should, however, be borne in mind that nearly *all* the cargo steamers now built are fitted with double-bottoms, so that the fact of the vessels lost having double-bottoms follows almost as a matter of course, and is no indication of the cause of the disasters.

That the double-bottoms fitted to these vessels have in consequence of insufficient beam in some cases contributed to their loss there can be no doubt, but from the remarks one hears all round it is evident that much misapprehension exists as to the influence which these water-ballast tanks have on the capsizing of vessels of this type. It is supposed by many that, in addition to raising the cargo, the double-bottom, being water-tight, has a lifting power inherent in itself to capsize the vessel. This I need hardly



say to the Members of this Institution is purely fallacious, as the stability of the vessel is not affected one iota whether the air in the double-bottom is absolutely enclosed or in free communication with the atmosphere. These double-bottoms are all fitted with air pipes, and if the air itself had any tendency to rise or to lift the bottom of the ship it would rise through these pipes, but not being beyond atmospheric pressure it has no such tendency.

The real source of danger to the vessel in fitting these tanks, I need not say, is in lifting the centre of gravity of a homogeneous cargo higher than it would be lifted by ordinary dunnage, and to this extent it renders a vessel more tender when loaded, and if her proportions and form make her otherwise a tender vessel, this influence might possibly render her dangerously unstable, and, without doubt, some of the recent losses may be attributed to this cause.

This fact in an exaggerated form has led some to suppose that the fitting of these water-ballast tanks in the bottoms of vessels is under *all* circumstances inconsistent with safety, but I need not say that no danger need be feared from this mode of construction provided the proportions and form of steamers be made suitable to the height and extent of the tanks, and an intelligent judgment be exercised in loading them. The carrying of water-ballast has become so essential a part of the economy of steamers, that it will well repay the time and consideration necessary to ensure a combination of such a convenience with the safety to the vessel.

I have said that in cargo steamers it is necessary to effect a compromise between too little stability with grain and other homogeneous cargoes, and too much with dead-weight, such as iron, &c.

I need not add that it is better to err on the side of the latter than of the former. One leads directly to unsafety, the other leads to uneasiness and straining, but only indirectly to danger; and this can be avoided, once it is understood, by lifting the dead-weight cargoes.

None of the information gleaned from the survivors, and from other experience with vessels loaded with iron in the lower hold, goes to indicate that any actual loss has occurred from the vessel having *excessive* stability.

But here again we must not go to extremes, for even recently cases have occurred where steamers have been placed in some jeopardy from excessive stability and violent rolling, owing to iron being stowed too low in the hold. Beyond the greater risk of the engines breaking down, and of shipping heavy seas, it would be wrong to ignore the wear and tear and straining action on the ship.

In passing it may be interesting to notice the following example of a new steamer, which recently made extremely heavy weather, and which has been attributed to the heavy dead-weight cargo of iron being stowed too low.



I have given in the diagram an approximate curve of stability of this "Threc-deck" steamer, marked H., whose dimensions are 285 feet by 35 feet 3 inches by 24 feet 5 inches. This vessel recently sailed from this country to America with a cargo composed principally of iron. There were 1,700 tons of this stowed in the hold, extending up to within 2 feet of the middle deck, and 300 tons between decks, and the approximate metacentric height is computed to be, when so laden, not less than 3 feet 6 inches. On her voyage she encountered heavy weather, and the consequence was that the vessel was severely strained. On her arrival at the port of destination it was found, on examination, that many butts of outside plating and rivets were started and the decks strained and leaking, besides other damage from the same cause. The difference between the curve of stability of this vessel, and that of the vessels loaded like those which have capsized, is very striking, and there is obviously room for abundant safety between them, free from any fear of excessive stability.

Experience thus gained, however, has led to improved loading on future voyages, by raising the height of similar cargoes and placing a greater portion of the iron on the middle deck. This, as before said, merely requires experience and judgment, and need not occasion additional outlay. Such experience has to be gained in loading *all sailing* ships, and there is no reason why similar knowledge should not be acquired and exercised by those who have charge of steamers.

The dangers from loading heavy dead-weight cargoes can be met without difficulty, but the principal danger arises, as shown from the recent losses, in carrying homogeneous cargoes, such as grain or coals, whose specific gravity admits of the vessel being filled to the upper deck. The inner bottom in such cases being a fixture cannot be removed, as portable dunnage can in a sailing ship, so as to admit of the cargo being lowered and stowed on the ceiling, and the question arises, How can "Three-deck" vessels, similar to those which have been lost, be adapted to carry such cargoes with a proper margin of stability and safety? With reference to those already built of these proportions the remedy will readily present itself, that if these sad accidents are to be prevented, there must, when carrying such cargoes as grain or coals, be less cargo carried between decks, or more heavy dead-weight below, as the case may require.

That narrowness alone does not involve danger, if proper judgment be exercised in loading, may be shown by illustrating the case of a spar-decked steamer which was referred to by Mr. W. John in a valuable Paper read by him before this Institution in 1877. This vessel was 276 feet long, and only 30 feet broad, and having a depth of hold to the spar-deck of 24 feet. She has been employed up to the present time principally in the grain trade,

and on one occasion became disabled by an accident to the rudder chains when so loaded and was abandoned. But though the cargo shifted, and she was rolling about in a heavy sea for some days in the Bay of Biscay, she did not capsize. In fact, the calculation of the stability of this vessel at that time showed that she might have been inclined through an angle of  $111^{\circ}$  before the point of vanishing stability was reached. The cause of this, however, was that the vessel was properly loaded, having regard to her proportions and consequent stability.

The hold was entirely filled with grain in bulk, and as much stowed between decks as experience showed she could safely carry without making her unduly tender.

The owners of this vessel are well aware that were she loaded quite full between decks, so that her main deck would be under water, as is the practice with most of the "Three-deck" vessels of the same total depth, in the first gale she encountered when so loaded, she would inevitably capsize.

Hence it is not only a question of beam, but also one of depth of loading.

Returning to the question of the "Three-deck" vessels having only a small margin of stability, for the purpose of seeing how this stability can usefully be increased with the least loss and inconvenience, let us assume the 'tween-decks to have two transverse bulkheads, within which cargo is to be stowed, and suppose we thereby carry 80 tons less than at present, and suppose the tank in the after-hold to be of a size to contain an equal weight of water, or to be divided by a water-tight division, as is now frequently done, this after-tank could be run up with water, and by retaining the same load line, a marked improvement in her stability and safety would be effected as shown by the curve B, the range of stability being extended from  $52^{\circ}$  to  $75^{\circ}$ .

Here we have the simple question of less profit on the 80 tons of coal or grain cargo, or a continuance of excessive risk, and from my knowledge of steamship owners, I am of opinion there is not one would hesitate which to adopt when the two courses are clearly pointed out.

*(To be continued.)*

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SEA FOG ON THE COMPASS, AND THE BRITISH  
SAILOR IN PREFERENCE TO THE FOREIGNER.

*Read before the Members of the Shipmasters' Society, 29th April.*

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CAPTAIN FAITHFULL, in the April number of the *British Merchant Service Journal*, says, "I have been looking anxiously for either a corroboration or negation of my theory and experience as to the effect the fog has on the mariner's compass, but none has appeared. There has been one notice taken of the theory, but the writer contents himself with a simple denial; but," says Captain Faithfull, "denials or assertions are not proofs for or against my theory, we want facts." He quotes Captain Saxby, who says, "that a confident belief prevails that, as our experience extends, the assertion that fogs do not affect the mariner's compass becomes more and more doubtful, and that getting on shore in a fog means one of three things.

"1st. The captain mistaking the amount of compass error.

"2nd. That the compass has been affected by some unknown influence, and fog may be that one.

"3rd. That both causes of danger exist simultaneously."



Captain Saxby gives an instance "where a whole fleet of merchant ships had their compasses," he says, "affected during a night's fog, and in the morning found themselves, as the fog cleared, going directly for the Casquet rocks; not one ship alone was turned from her course, but thirty sail had their compasses disturbed." And he goes on to say that "it would be a matter of prudence to assume that fog (sea fog) affects the compass," and recommends that "when fog threatens, captains should test the correcting card by some heavenly body."

Now, let us look into these assertions and recommendations of Captain Saxby. Has he not failed to take into account a fourth cause why ships get into trouble in a fog; that is, extraordinary strong sets of the tides. What proof has he that these thirty sail found themselves over by the Casquets owing to the disturbance of the needle by fog, any more than they were brought there by the set of the tide? The tide would carry the whole thirty, and not one, as well as a disturbance of the needle would do; but I have found myself over to the Channel Islands, when there was no fog, when I thought I was in the fairway. Captain Saxby has not always been right in his prognostications. What would be the use of testing the correcting card just before the fog set in if the compass was to be affected by the fog directly after?

I am sorry that I cannot agree with my friend Faithfull in the theory he puts forward in his paper, but difference of opinion need not alter friendship. The fog, in my opinion, has little or no influence over the compass; but whether it has or no, it is of such importance that it should be set at rest. The men in command of our large ships have quite enough anxiety on their minds, when navigating in narrow waters. They do not require this additional one, and, in my opinion, it has been set at rest years ago, or we should have seen something about it in the old books on navigation.

The Admiralty do not allow such when any of the men-of-war get on shore in a fog; but, as it has been started, the Trinity House should be asked to instruct the keepers of the Eddystone and Lizard lighthouses to place a compass where it could not be interfered with, and note if any disturbance of the needle takes place during fogs. Captains of iron ships should, when their ships are on the blocks in dry dock, in clear weather, note which point or quarter point coincides with the lubber's point, and when a fog comes on look if any alteration has taken place, and note the same. This could also be done when the ship is moored tightly to the quay or jetty. By this plan we should very soon clear up the doubt, if any.

It seems strange that this question should crop up after the mariner's compass has proved to be the faithful friend of the sailor for more than four hundred years. If the navigator is not to trust to his compass in fogs, I am at a loss to see what he is to trust to. It is only since iron has been used in the building of ships that the truthfulness of this faithful servant has been brought into question; this difficulty was soon got over by rigging a standard compass high up clear of the influence of the iron forming the hull. But ships get lost by running on shore, as they always have done, and will still continue to do until the end of time; but as soon as this happens, now-a-days, an inquiry, or more properly speaking, a trial, takes place, and on his trial the captain is asked to what cause he attributes the loss. Well, the question having been put, he is bound to give an answer, and the one ever ready is the compasses must have been out. Not that this answer is believed by those who sit in judgment over him. It would be more often the truth for him to declare that he was expected by his owners to be at his destination by a certain time or that he was anxious to get a sight of the land for a fresh departure. Until owners relieve masters from this necessity and give them orders to slacken speed in

fogs we shall have these by far too frequent losses. I once heard of an owner telegraphing out to Aden for the captain to account for the loss of eleven hours on his passage. The captain wired back, "Bad coals." One way to remedy this reckless speed would be to compel owners to take a quarter risk, and then they would see the necessity of using more caution. How is it that so few losses take place with those large steamships running between Liverpool and America at all times in the year? No one will pretend but that they have a full share of fogs. Captain Faithfull is surprised that none of our sea-going members have taken up this question; for my part, I don't see how men afloat are to settle it. It can only be done on shore, because when the fog is on no objects are in sight to enable him to detect any disturbance of the needle, and I am at a loss to see what influence a ledge of granite rocks forty fathoms below the surface, connecting the Start with the Lizard, can by any possibility have on a compass some twenty feet above the water. It is said that this ledge has only just been discovered, but it has been there all the time notwithstanding. Why losses of late have been so frequent in this locality: captains, when bound round the land, are anxious to get a sight of the Lizard for a fresh departure, and the fact of there being a fog-signal on this headland makes them more bold in hauling in for it, thinking they will hear the signal in time to warn them of danger, whether the fog deadens the sound, or the men in charge of the signal neglect their duty, it is impossible for me to say, but this I will say, it is not always the captain's fault. It is his fault if at such a time he keeps his vessel at full speed, or even half speed, and if he at the same time neglects to use the lead; if in this case he comes to grief, he has no one to thank but himself. There is no excuse for a steamer coming to the rocks under these circumstances, as he can so easily stop her, to enable him to get a cast of the lead; whereas, in a sailing ship, sail has to be shortened and



the ship rounded to, which, as we all know, is a work of no small labour and loss of time. Captain Faithfull says that there is some disturbing influence about this part of our coast. I answer just the same, and no more, as there has been from the time our forefathers first went to sea. I agree with "W. C. S." in what he says in his paper in the March number of the *British Merchant Service Journal* on this subject. He appears to have taken some pains in the matter of the compass on board iron ships. He is right when he says that fog has any appreciable influence over a ship's compass *has never been proved*, and he thinks it impossible to prove it by any means taken on board ship whilst under way, and that fog would affect the compass on board wooden ships as readily as it would on iron ships. My friend Faithfull will, perhaps, tell us that these are only bare assertions, and that we require proofs, apparently forgetting that when he asserts that fog does affect the compass, that also is only a bare assertion. He brings us no proof that it does. Well, the best proof that I can give during the thirty-five years I was knocking about in nearly all parts of the world, I never observed my compass to be affected by fog, and that no ship that I sailed in ever came to grief from such a cause. We have fogs thick enough on the coast of China, North America, and many other parts of the world, where the navigation is much more intricate than about the Lizard, and I do think that during those thirty-five years, if fog had affected my compass, I should have had the fact painfully made known to me. This is my experience as regards the compass.

And now for British in Preference to Foreign Sailors.

In Captain Faithfull's remarks in the last Journal on this subject, I must say I think he is a little too severe on "W. C. S." When one of our own cloth is good enough to give us his ideas on nautical matters at these meetings, as well as write for the Journal, a considerable latitude should

be given him. No men under the sun so much differ in opinion as nautical men, and none more like to have their own way, and think that which they deem right must be so. No body of men, numbering so many as the merchant seamen of this country, can be found to think alike, and it is well that it is so; by hearing all sides we get at the truth.

I see a notice in this room signed by Mr. Thomas Gray of the Board of Trade, advising the sailor how to spend his money when he returns from a voyage. This advice comes a little too late, as I am told that the 75 per cent. of the sailors employed in our Mercantile Marine, being foreigners, cut off home to their native land as soon as they are paid off, and only return when their pockets are empty, to look for a ship to go and earn more money to spend in the same country on their return. In preferring foreigners to British, you prevent our own boys getting to sea, and the money that the British seamen would spend here goes on to the Continent, and the same holds good as to the freights earned by foreign ships. I have no doubt that when "W. C. S." says that he prefers foreigners to British, he means what he says, and that he makes the assertion from his own practical experience, and I am sorry to say that very many more of our masters are of the same opinion, therefore it is useless to say that this is only an assertion, and that assertions without proofs are valueless. If a man is not to judge from his own experience, what is he to judge from?

It is all very well to put it to "W. C. S." are you, as a British shipmaster, doing your duty towards your neighbour, the British sailor, by shipping aliens only, in the ship you command. Captain "W. C. S." might answer to this question, I am placed in command, and am expected to do my duty, and, if I don't, some one will be put in my place. And who are my neighbours? I take it, they are something like my duties, numerous. I have a duty to perform to the owners, the merchants, the passengers, the underwriters, to

my wife and children, and to the crew. I should prefer my own countrymen in preference to foreigners, as our fathers always did, but owing to Acts of Parliament, passed within the last thirty or forty years, they have, by these Acts, so altered and spoiled the British sailor, that I am compelled, in the interest of all concerned, to give the preference to the foreigner over the British sailor. I am afraid that this is only too true, and therefore it is stretching the point to expect the British shipmaster, single-handed, to alter this most dangerous and unsatisfactory state of things. Why don't the owners see to it, and make up their minds to take English boys to sea, train them up in the nautical profession, and if they refuse to do so the Government should pass a law compelling them, and at the end of five years go back to the one-fifth clause (that is only one-fifth of the crew in any British ship shall be foreigners)? If this were done, as I have said before, nine-tenths of your troubles with sailors would vanish, and you would soon have sufficient English sailors, not only to man the merchant ships, but the Navy as well, and you would no longer require to send three hundred boys in one ship to be trained to go to the bottom; nor would you require those training-ships that lay blocking up the navigation of the river, and now and again set on fire by a parcel of young thieves picked up out of the gutters, to be trained, so-called, for the sea. The proper way to make good sailors is to take the boys to sea when young and teach them their duties, and not idly laying in the rivers and docks. The question is too pointed where "W. C. S." is asked, "Are you so perfect in all your relations of life, that you can, and dare sit in judgment, and condemn a whole class of men such as the merchant seamen of this country for the faults of the minority; do you set him an example of sobriety? You say he associates with the lowest women on shore; do you set an example by shunning vice, and sin though decked in jewels," and so on? I was sorry when



I read this in the Journal, and from such an able pen, and I do think it would have been better if this portion of the paper had been left out. I am afraid it will give offence to some of our members, and will delight others who are not always too well inclined towards the master mariner. It will be read, no doubt, with much relish at the Amalgamated British Seamen's Protection Society. I think it very much out of place in this Journal; but the worst, or rather the best of it is, that it is not true as regards the shipmaster. I say, and I say it from experience, that of the captains of the present day who command our vessels trading abroad, 95 per cent. are good moral men. I should be too glad and perfectly satisfied if the men before the mast would follow the example set them by those at the after end of the ship. No one expects perfection on board ship, but I am certain of this, that the captains and officers, taken as a whole, serving in our Mercantile Marine of the present day, would, if a fair comparison were taken with their countrymen on shore, come out of the ordeal with flying colours; I mean for honesty, morality, and sobriety, and many other virtues. Who so kind to women and children? I am unable to see where "W. C. S." puts himself forward in any of the capacities mentioned. He is a sailor, and one that is not afraid to give his opinion, and having done so, to stick to it; moreover, he has a right to it. I feel sure that his bite is not so bad as his bark, and the same may be said of our friend Faithfull; they are both of them a credit to our cloth, and would only be too glad to ship British seamen in their ships, as soon as the owners and the Government have done their duty by going back to the apprenticeship system, and raise the supply sufficient for manning our ships without having to resort to the foreign sailor to make up the deficiency caused by the alteration of the old law. As I have shown before, it is not so much the sailor's fault as his misfortune. He

has been brought down to his present low estate through too much legislation, and most of it in the wrong direction. No one loves the good honest British sailor more than I do, but it is no use hiding from himself his faults, and I am not quite sure that good will not come out of "W. C. S.'s" line of argument. No men have had greater cause than the seamen of this country to exclaim, "God protect me from my friends." "W. C. S." is asked if all the British ship-masters were of his opinion, what would become of the British sailor, and also of British merchant ships, in the event of this country being at war with two or more naval powers, and of the British Navy with no men to man the fleet, and if our Navy were to be destroyed what would become of England. This again is not a question for one master mariner to put to another. I should say that there is no British sailor living but perfectly knows that should such a war break out that the first break down in our defence would be a want of good seamen. We have not half enough English sailors to man our merchantmen in time of peace; where we should be after the first six months' hostilities is a question that "W. C. S." cannot answer. It is a momentous question, and one that concerns every man, woman, and child being natives on these islands. It certainly is not so much the business of the sailor what would become of the narrow streak of sea, than of the Government of the country. If the French, or any other nation, got possession of it, and of our ships, if the worst came to the worst he could earn a living under the foreign flag; but how about the gentlemen who live at home at ease, and make our laws; how would they fare? I suppose when they found themselves ousted out of their mansions and estates, they would painfully wake up and see what folly they had committed by departing so much from the ways of their fathers. Such has taken place before now, and may do so again. I say to our rulers, be wise in time. That

the British sailor is not what he ought to be, nor what he used to be, is not only the opinion of "W. C. S.," but, I am sorry to say, it is the opinion of seven-tenths of the commanders and officers in the Merchant Service, and if, owing to our having neglected to train up the boys of this country into good and true seamen, we shall be gobbled up by one or other of the Continental boa constrictors, the operation would be no more severe to the masters of merchant ships than it would be to the old women who sit and talk so much nonsense on nautical matters at St. Stephen's, who, if they were capable of taking warning from men of nautical experience, would see that laws passed some thirty or forty years ago were detrimental to the best interests of the people of this country. Any Government that would have the moral courage to make owners take apprentices would deserve the everlasting thanks of the nation. I fail to see what the shipmaster can do to better this state of things. If he were to make up his mind to take none to sea with him but English sailors, where would he get them ; they are not to be had. It strikes me that we as a nation are very anxious about the welfare of the Bulgarian, Turk, and Greek, and overlook that which ought to claim our immediate attention for our own safety. I fear that some day we shall find, when too late, that we have been minding other people's business and have neglected our own. Complaint is made in this paper of the seaman's provisions, both as to quality and quantity, and it is said that there is no reason why sailors food should not assimilate more to food on shore. I am at a loss to see how this is to be done on long voyages ; it has been carried out as far as possible on short voyages, especially in steamers, where they can make pretty certain as to the length of time they will be on the passage. All that I can say is, that to my own knowledge the food served out to our seamen of the present day is *infinitely better* than it was fifty years ago ; in fact, there is no



comparison, as I showed in my paper in the second number of our Journal. Again, "W. C. S." is accused of sneering at the sailors for wanting a comfortable place to live in on board ship, and it is said in this paper that the sleeping places are not fit to lodge a dog in. Well, if this be true, I, W. B., must have been asleep. I am under the impression that a great deal has been done of late years to make Jack's living place more airy; lightsome, and capacious; in fact we have been treated to several Acts of Parliament for this very purpose. No ship is allowed to go to sea unless each man has so many cubic feet of space allotted to him; ventilation and light are insisted on; Government officers are appointed to see that the Act is complied with, and very strict. I have always found these officers, I was going to say, exacting, so that it appears strange to me after so much has been done in this respect we should be told that Jack is still lodged like a dog. Such severe remarks do more harm than good, as Jack will be ready to believe it. I don't know what Captain Faithfull would have thought of the place where I had to live on board the ship I served my time in. She was under 300 tons; the fore-castle was below deck. On the homeward voyage from Jamacia, there was in this fore-castle a bulk-head put up at the fore part in which to store coal; on the after part a tier of casks of water, on which were coiled the warps, and down between these we had to live. There were no bunks in those days, we slept in hammocks. The only light and air was received from the scuttle in midships on the after-part. The carpenter and second mate had for their living place, one longer of puncheon of rum left out, under half-deck hatch from side to side of the ship. Well, we thought nothing of this, as it was the usual custom, and we were content. Not that I say it was right; I merely wish to show what improvements have taken place in my lifetime, as regards sailors comforts over what they used to be. Captain Faithfull says the sooner these improvements in the

dietary scale, and the men's lodgings are put in practice the better, and this done the sailor will remain by his ship. Unfortunately this has not been my experience, for I have seen men run from the best and most comfortable ships, and if you were to ask them why they left they would tell you they did not know only that they wanted a change ; and if proof is wanted, ask any old sailor if it is not a fact, that during the last forty years, notwithstanding ships have increased in size, accommodations for the crews have been vastly improved, better provisions have been supplied, and only half the amount of work to be done, with an increase in the wages ; that during this time desertion, dissatisfaction, and a deterioration has taken place in the sailor is beyond doubt. One great cause of this is, the men know that owing to the great scarcity of British seamen they would have no trouble, let their behaviour be ever so bad, of getting another ship. Once raise the supply equal to the demand, and the men will see the necessity of learning their duties, and behaving themselves, and sticking to their ships. Why the men behave better in the Navy is because, after a certain number of years of good conduct, they are entitled to more pay, and at the end a pension. If something like this could be done in the Merchant Service it would be well. Perhaps it would be hardly fair to call upon the owners of sailing ships to rear up sailors for the good of the country at their own expense ; then let the nation at large subscribe to a fund to indemnify the owners for any loss or trouble in this matter. Let there be a sum paid for each boy who has served four years and passes a Government examination in seamanship only. The cost of the several training-ships would go a long way towards furnishing a fund for this purpose, and the boys would be so much better trained.

It is said that temptations are sometimes thrown in the sailor's way by the cargo being stowed so as to be got at by the men. As a rule, the cargo is stowed in a way to prevent

pillage ; but I have known where they have cut through the bulkhead iron bars and bolts to get at the spirits.

One great inducement, the sailors know that magistrates will not punish unless caught in the very act. I knew a case where the bottles of gin were found in the men's chests corresponding with those in the cases broached, and yet no punishment, the magistrate said that no proof was before him that the bottles were not placed there by some others.

Captain Faithfull thanks God that so much good has been done for the merchant seamen of this country, and so do I, but this is rather a contradiction on his part to what he says above. It is an old saying, and holds good both with the seamen and the masters. It is little or no use to try to help those that will not help themselves. This Society has been started to better the master's position, and how few in comparison have come forward to help themselves.

I agree that the sailor of the present is a better man mentally than he was years gone by, but I cannot go so far to say that he is better every way, and I feel certain that Captain Faithful does not expect that in this assertion he will have the shipmasters on his side. No doubt, as he says, there are thousands of sober sailors, and though not perhaps strictly and severely virtuous, would scorn to be as profligate and drunken as the sailor of old. I think this is a little too hard on the latter, for we should bear in mind in those days, it was not only the sailor who was profligate, it ran through the whole nation. There is no doubt the sailor of old served the country well, and defended the homes of his countrymen. If the sailor looks to the British shipmaster to protect him against the foreigner taking the bread out of his mouth, I tell him that he is looking for help where it is not to be had. Not only should the sailor demand from the Government an alteration in the law, but captains should go with him and back up the demand. Their interest in this case, as in almost all cases, is one and the same. I am



sure that "W. C. S.," as well as most captains, would rather have an English crew, if they would behave themselves and take an interest in the ship while belonging to her, and I feel as sure that our sailors would rather have their own countrymen to command them than foreigners. There is no doubt but that the sailor, if he were wise, would in the first instance trust to himself, and do all in his power to regain his lost position; but after all he will have to trust to the Government to help and protect him from so much foreign competition. I agree that it is no use in trusting to Plimsoll, and I might say Burt, but I believe that not only the sailors, but also the captains, have good reason to be thankful to Captain Pim, R.N. He has the interest of our profession at heart. We may not agree with all he has written and said on the subject, but I wish we had a hundred such men in the House to plead our cause. Is it not a disgrace that there should only be five or six sailors who have seats in the House of Commons, and that when a Nautical question crops up the House clears out. If we only had half as many sailors in the House as there are lawyers, we should do better no doubt.

"W. C. S." writes a very sensible letter to the Editor of the *Journal*, dated at sea from lat.  $0^{\circ}$  long.  $85^{\circ}$  E., which appeared in the March number, and in that letter he says, "So far from thinking that the Government has helped English sailors, I believe it is partial laws, very partially administered, that has brought on them the necessity of the petition presented by Captain Pim from the Amalgamated British Seamen's Protection Society." And asks, "What shipmaster has not felt this, when in some paper he has read of some sailor sentenced to four weeks for broaching cargo, endangering, perhaps, the lives of hundreds, and of some land labourer sentenced to twelve months for stealing some trifle possibly for the benefit of a half-starved family." To the British sailor he says, "Put not your

trust either in Governments, Plimsolls, or Pims ; to yourself be true, be the best article." This letter appears to have offended the Secretary of the above Amalgamated British Seamen's Protection Society, and a letter appears in the April number from that gentleman, dealing out some hard blows on "W. C. S." I feel sure it will not disturb the peace of "W. C. S.'s" mind.

I have said enough to prove that fog has no appreciable influence on the mariner's compass, and that our captains do not so much take foreigners in preference to British sailors because they like the former better, but because the British are not to be had in sufficient numbers to man our ships, and therefore are compelled to take foreigners, and in doing so if the captains find the former more obedient whose fault is that, it cannot be the fault of the captains, and it is, as "W. C. S." says, for the British sailor to see and make himself the better article.

WILLIAM BURROWS.

Discussion being invited—

Captain SANDERS said he attributed many casualties in the present day to the want of practical knowledge, and quoted a case where it was alleged that the compass was in fault, but which undoubtedly arose from bad navigation. In this go-ahead age, officers are crammed with theoretical navigation but are wanting in practical knowledge.

Captain FAITHFULL wished it to be clearly understood that he did not say that the compass was always affected by fog, but his object in putting forward such an argument was with the intention of ascertaining the opinions of a body of nautical men upon the question. To assert that the fog does not affect the compass would be absurd. In the case quoted in his paper when his compass had been affected, he had taken great care in noting the deflection of the needle, and he was persuaded beyond doubt that it was affected by fog.

Captain ELLISON observed that fog in quiet weather might affect the needle. From his own experience he had often found the compass sluggish, and had frequently to shake the stand in order to get the needle to work freely. He thought that the subject should be carefully inquired into on shore.

Captain FAITHFULL agreed that the observations could be carried on on shore, provided it was in an iron ship and not in a stone lighthouse, but he would still desire to have it tested on an iron ship at sea as well as on shore. He had never found a wooden ship's compass affected, but now-a-days when iron vessels are in such request, he is sure the compass is never to be positively relied upon. (Hear, hear.)

Captain BURROWS' enquiry whether the standard compass was likewise distrusted was met by a chorus of voices asserting that not even the standard compass could be relied on.

Captain BURROWS: Then if that is so masters require to be made aware of it and the subject should be at once settled. What a trying position a man must be in if he cannot rely upon his compass. Take for instance the *Orient* in a fog. If you instil into the master's mind that his compass is not to be trusted, what must his anxiety be like? Can any one fancy such a position? In the speaker's opinion the question was settled long ago, and he was surprised to find it had cropped up again. If the fog did touch the compass the fact would be on record in nautical works.

Captain FAITHFULL wished to impress it on the meeting that his remarks referred to fog affecting the compasses of iron ships, and asserted that not one commander would place implicit confidence in his compass, and was surprised to find that Captain Burrows did not know this.

Captain BURROWS had put the question to many masters and pilots and all agreed that there was no difference. Pilots would be the very men to find it out, and he was sure they had devoted much attention to the subject. Captain



Saxby referred more particularly to sea fog, but the speaker had yet to learn that there was a difference between land and sea fogs.

Captain FAITHFULL, in writing the paper which had been referred to, had an object in view, which was whether he could not find some cause why the Cunard steamer was lost. He had taken up the case to see if there was not some other influence at work, and to let the Court see whether there was not some change during a fog. A man continually crossing the channel at such an angle must have been well acquainted with the tide and wind. He must have known that the tide would affect the vessel, consequently there must have been some other influence at work.

The CHAIRMAN (Captain Froud) believed that every careful man would use the lead, and he was certain that, in some cases, the compass was affected by the fog. He knew of an instance when a standard compass was thrown out by the approach of the master and his officer—who had in some manner or other exercised some magnetic or electrical influence.

Captain FAITHFULL: When such a thing can occur, it is not to be wondered at that the fog should have some such influence, and he, from experience, would most distinctly say that the fog did affect the compass in the instance quoted, and of which ship he was in command.

Mr. DANIELS having enquired how Captain Burrows could reconcile his statement, that British sailors are scarce, with the reports in the *Shipping Gazette*, that in the north English sailors are unable to procure ships, the latter gentleman said, that arose from the fact that the foreigner is in possession, and that though there might be instances of Englishmen shut out, that fact did not contradict his assertion that British sailors are scarce:

Captain WILTSHIRE could endorse that remark. On his last voyage he was unable to get an English sailor; he had not

even one officer. The wind freshened and he had not hands to work, nor any who had courage to assist in lowering and manning a boat to save a man overboard. He regretted to say so, but, in his opinion, the masters and owners had spoilt the sailor.

Captain FAITHFULL assured the meeting that in writing the paper which had been so severely criticised he had no intention of saying anything cruel or harsh, nor did he desire to give offence, but on some subjects one feels strongly, and this was one upon which he felt most strongly. He sees the Merchant Service going down more and more and the British sailor thrust aside for the foreigner, and he would ask if that is not enough to make a man feel strongly who loves his profession. From statements made it appears that there are 75 per cent. foreigners in the service, and what this means in time of war it was unnecessary to point out, as all were aware. If this country is to be protected it must be by the Navy, and to man the fleet we must have British sailors, and it is only in the Mercantile Marine that such men can be trained. He also thinks that it is very much, if not altogether in the hands of the masters; if the master can refuse to ship British seamen, surely it follows that he can ship them if he pleases. Captain Faithfull then mentioned that he had heard of one firm in the North of England who refused to have anyone from master downwards in their steamers, and hoped that in event of war breaking out every one of these ships would be immediately carried into the enemies' ports. This state of things in the British Merchant Service was deservedly condemned by all present; it is quite possible that there is a dearth of British sailors, and is it not likely to be so when the British shipmaster will not employ them. In reply to Captain Burrows' remark that his paper taking up the sailor cause with reference to food and lodging, would do harm by encouraging the sailor to get better and make him more insubordinate, he, Captain

Faithfull, wanted to know if he was to keep the truth for fear of consequences. He, Captain Faithfull, further remarked that the truth never could be wrong or out of place.

Captain SANDERS alluded to the employment of Lascars, very good men, but still he considered it a mistake to take foreigners.

Captain CROWDER: It seems that the commanders in the P. and O. and B. I. S. N. prefer these Lascars, who are really British subjects.

Captain WILTSHIRE considered it the duty of the Government to back up masters in maintaining discipline. How often when a master feels he should put a man in irons he hesitates doing so on account of the leniency shown in courts, and the recollection of the *Locksley Hall*. Want of discipline, in his opinion, is the cause of deterioration of the service.

Captain FAITHFULL said the incident had not been mentioned which he quoted to show that sailors are not well lodged. He did not say that they are not better looked after than before, but he maintained that the ordinary fore-castle is not a proper place for a sailor. Once when his father asked to be shown where the crew lived, the old gentleman remarked, "Why, Harry, I would not put my dog there!" and he agreed with that feeling. He repeated his previous remark that the fore-castle of a sailing ship towing to the Downs and plunging bows under is not a fit place for a British sailor or anyone else, and ought to be done away.

Captain BURROWS could not agree with such remark; in his day he considered the upper fore-castle a paradise in comparison with the lower. Again, in Calcutta, in hot weather, is it not better to have the fresh air blowing through and rendering the place endurable. If the sailors don't like roughing it they had better do as "W. C. S." says—stay at home.



The CHAIRMAN pointed out that the large vessels of the present day do not require so many hands, nor is there that demand for ability as formerly—the need of labour is not so great since iron ships have been built—and there is still the R. N. Reserve to fall back upon for the Navy supply. These were points that he considered were often lost sight of in discussing the position of our Merchant Service. Were the apprentice system to be returned to he believed the sailors would still desert and go farming, mining, or to any of the better paying occupations. The class of men now going to sea are better educated, and the young men of 16 to 18 would especially leave the sea for more lucrative employ.

Votes of thanks to Captain BURROWS for his paper, and to Captain FROUD for presiding, terminated the meeting.

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## THE MERCANTILE MARINE SERVICE ASSOCIATION.

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THE Council of the Mercantile Marine Service Association, in presenting to the Members and Associates the Twenty-third Annual Report for the year ending 31st December, 1879, congratulate them upon the increased and increasing usefulness of the body, their growing numbers, and the satisfactory financial condition which, notwithstanding unprecedented depression in maritime commerce, they have the pleasure to report.

One hundred and seventy-four new Members have been added during the past year, 74 of whom are masters, 97 officers, and 3 associates.

There have been applications made by 116 members for employment, and more than 100 applications have been received in the rooms from shipowners requiring masters and officers. The Treasurer's statement shows a balance to the credit of the Association of £214 12s., which is an advance

upon the balance at 31st December, 1878, of £38 13s. 9d., showing a steady progress, although accompanied by necessarily increased expenditure.

During the fifteen months ending 31st December last, eighteen members of the Provident Branch have died, and their families have received most opportune benefit from this needful and greatly appreciated scheme. Your Council have thought it desirable to bring the accounts of this Branch down to the close of the past year, so as to present them uniformly with those of the Association, and the Aged Seamen and Widows' Fund, as also to include the statements in this Report. The fact that the sum of £817 7s. 6d., during fifteen months ending the 31st December last, and a total of £1,035 5s. since the commencement of the Provident Branch, has been received in half-crowns, and paid to representatives of deceased members of the Association, speaks loudly in favour of a system that offers, upon easy and comparatively inexpensive terms, a good ground of Mutual Assurance in the event of death. Your Council, while by no means discouraged, yet earnestly hope that through unitedly commending the Branch to their friends, the six hundred and fifty-nine members already enrolled may be largely augmented.

During the past year the attention of your Council has been directed to the defence of four members who have been brought before Courts of Inquiry, and after full deliberation, it was decided to defray the expenses of such defence out of the general funds of the Association. In two of the four cases the defence was successful, and the certificates were not dealt with. The remaining two decisions, unfortunately for the masters, were adverse, resulting in a suspension of their certificates for three months. It is encouraging to find that this legal defence of members at the cost of the body is warmly appreciated, and continues to meet with increasing favour.

The acknowledged boon conferred by Lord Sandon's Act, in providing a Court of Appeal for masters and officers whose certificates have been dealt with by Courts of Inquiry, calls for a hearty expression of indebtedness to the noble Lord, this being almost the only concession worthy of the name that the British Government have made, after years of patient waiting, and persistent pleadings for redress. Your Council express the earnest hope that the Government will render the procedure and costs of these appeals as simple and inexpensive as possible, so that no case need be lost because of inability to provide the means. And this leads them to urge upon all nautical men the duty of at once identifying themselves with this or kindred Societies, for the purpose of securing the influence and aid of recognised bodies in obtaining, what the best of navigators may too soon need—the reversal of unjust decisions.

With kindred Societies the best relationships are sustained, and in concert with them much good has been accomplished by representing, on occasions such as that afforded by the passing of the Shipping Casualties Investigations Act, a united front, and thus impressing upon the Government the validity and extent of the claims of nautical men. The failure of the Government to carry out some most important recommendations made by the Royal Commission on Unseaworthy Ships was the subject of an interchange of opinions between the various nautical bodies, which were published in the organ of this Association for March of last year. This persistent refusal is a clear indication to your Council of the decided objection of the Board of Trade to relax any of the arbitrary power which that department possesses, and wields, as affecting the certificates of nautical men, but which, nevertheless, is shown by the Royal Commission to be a prerogative they ought no longer to enjoy. The provision, in Lord Sandon's Shipping Casualties Investigations Act, that, where certificates are at stake before Courts of



Inquiry, there should be not less than two Assessors of a given standing from the Merchant Service, is a welcome response to the oft-repeated appeals of your Council, and they sincerely trust that the elimination of all Royal Naval Assessors from the list of nautical advisers, on Inquiries into the conduct of merchant captains and officers, is only a question of time, and will receive an early accomplishment.

It is matter for congratulation that the greater independence and impartiality of Nautical Assessors has been provided for by the new Act, so that it is now no longer possible for any Judge or Magistrate to select his own Assessors.

Your Council cannot forbear expressing their opinion that unnecessary inquiries into unavoidable losses at sea have taken place, whereby much pain, trouble, and expense are imposed upon the brave men who have escaped as by the skin of their teeth; and they would most sincerely ask the Judges and Assessors to Courts of Inquiry whether they are not morally bound to allow the costs and expenses incurred by Masters and Officers in defending themselves against unsuccessful attempts by the Board of Trade to damage their reputation, and deprive them of the certificates they lawfully possess.

The school-ship *Conway*, belonging to this body, continues steadily the good work it was originally designed to accomplish; and, with the prospect of further alterations in the laws affecting certificates, your Council hope to lose altogether any misgivings they may have felt, as to how far it was justifiable to train young gentlemen for a profession where the fair prospects of an honourable career are in danger of being blasted by the relentless prosecution of the Board of Trade, and the unjust decisions of Courts of Inquiry having penal powers. To the indefatigable Chairman and devoted Committee of Management of the school-ship the warmest thanks of this body are due.

By a natural transition it becomes your Council to pay a tribute to the estimable supporters of the training-ship *Indefatigable*, whose warm friends, Mr. Ismay, Mr. Bushell, and many others, have sufficient reason to be proud of what is a credit to the port of Liverpool.

Your Council would here interpose a previously-expressed opinion, that for a training-ship between the *Conway* and the *Indefatigable*, where the sons and orphans of the middle classes could be sent upon terms that would admit of the Institution being self-supporting and still be within the means of this class, there is great need and ample room.

Turning to the Seamen's Orphanage, your Council find much reason for congratulating its founders and supporters on the truly magnificent proportions of this grand Institution; and all hands will fervently join in praying for long life and continued strength to such large-hearted philanthropists as Mr. Ralph Brocklebank, Mr. James Beazley, Mr. Alexander Balfour, and many to whom, under God, the success of the Orphanage is largely owing.

Your Council would here refer with pleasure to the increasing desire on the part of owners and masters of ships that Divine Service should be more extensively observed on shipboard, and they earnestly hope that at least moral discipline, so necessary to the good order of our crews, will be improved thereby.

The Benevolent operations directly connected with this Association demand the closing observations in this report; and it is with extreme gratification and joy that through the kindness of donors, subscribers, and collectors, your Council have been the almoners of most acceptable assistance to 91 aged masters, officers, and seamen, and 105 widows during the past year; and that, bad as the times have been, there has been no diminution in the benevolence of the friends of the aged mariner and destitute widow. Amongst these friends is one who, year by year, for seven years, has most

generously placed one hundred pounds at the disposal of your Council, and to Mr. Ralph Brocklebank has many a distressed old sailor and friendless widow been deeply grateful.

The gladdening results of your Council's appeal for funds to purchase land, and erect Homes for Aged Mariners, cannot fail to brighten the page of this report ; and, foremost in the group of noble contributors to what will be a credit to Liverpool, is the unostentatious but princely gift of Mr. William Cliff. The same generous spirit has also been shown, to a most praiseworthy extent, by Mr. James Bibby, your old friends Mr. Brocklebank and Mr. Beazley ; by Mr. Sam. Martin, Mr. Wm. Johnston, and many others, whose names will be handed down to future generations with pardonable pride. While your Council are not yet able to announce the commencement of the buildings, they are in a position to acknowledge with heartfelt gratitude the receipt in cash and promises of £17,000, of which the executors of the late Roger Lyon Jones (E. Whitley, Esq., M.P., and Mr. J. B. Miller) have given £3,000, and the Shipwrecked Mariner's Society £5,000, and they venture to indulge the hope that at this Annual Meeting the grand total of £20,000, will be subscribed—when operations may be forthwith commenced. It is absolutely necessary, however, for it to be distinctly understood that, in order to maintain the work, an endowment fund of at least £20,000 must be provided, and even then a large revenue must be sought from legacies, annual subscriptions, collections, and other sources. But God, whose work your Council do not doubt it is, will assuredly vouchsafe His blessing, to whom it is commended in simple faith.

To the numerous benefactors, subscribers, and earnest workers in connection with the Association's various operations ; to the Royal Geographical Society, Royal Zoological Society, Royal Astronomical Society, Society of Arts, Society



of Engineers, and Meteorological Society for periodicals kindly supplied ; to the press of Liverpool and the *Shipping and Mercantile Gazette* for uniform courtesy and good service ; and to the Members of Parliament for Liverpool and Birkenhead, the heartiest thanks of this body are due, and are by your Council hereby tendered in your name.

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## INVESTIGATIONS INTO SHIPPING CASUALTIES.

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### ADDITIONAL RULES AS TO INVESTIGATIONS INTO SHIPPING CASUALTIES, 1880 :—

The Merchant Shipping Act, 1876, 39 and 40 Vic., cap. 80.

The Shipping Casualties Investigations Act, 1879,  
42 and 43 Vic., cap. 72.

Under the authority of the above-mentioned Acts, I, the Right Honourable Hugh MacCalmont, Earl Cairns, Lord High Chancellor of Great Britain, hereby make the following general Rules :—

SHORT TITLE.—1. These Rules may be cited as the “ Shipping Casualties (Appeal and Rehearing) Rules, 1880.”

COMMENCEMENT.—2. These Rules shall come into operation on the 21st day of April, 1880.

INTERPRETATION.—3. In the construction of these Rules the word “ Judge ” shall mean the Wreck Commissioner, Stipendiary Magistrate, Justices or other authority empowered to hold an investigation into the conduct of a master, mate, or engineer, or into a Shipping casualty.

PUBLICATION OF RULES.—4. These Rules shall be published by Her Majesty’s Stationery Office, through its agents, and a copy shall be kept at every Custom House and Mercantile Marine Office in the United Kingdom, and any person desiring to peruse them there shall be entitled to do so.

COPY OF REPORT WHERE CERTIFICATE AFFECTED. — 5. Where the certificate of a master, mate, or engineer has

been cancelled or suspended, the Board of Trade shall, on application by any party to the proceeding, give him a copy of the report made to the Board.

APPEALS.—6. Every appeal under Section 2 of “The Shipping Casualties Investigations Act, 1879,” shall be subject to the conditions and regulations following, namely:—

(a) The appellant shall, within seven days after the day on which the decision appealed against is pronounced, serve on such of the other parties to the proceedings as he may consider to be directly affected by the appeal, notice of his intention to appeal, and shall also, within two days after the appeal is set down, serve on the said parties notice of the general grounds of the appeal. (b) If the appeal is brought by any party other than the Board of Trade, the appellant shall give such security, if any, by deposit of money or otherwise, for the costs to be occasioned by the appeal, as the Judge from whose decision the appeal is brought, on application made to him for that purpose, may direct. (c) The appellant shall, before the expiration of the time within which notice of appeal may be given, leave with the officer for the time being appointed for that purpose by the Court to which the appeal is brought (in these Rules referred to as the Court of Appeal), a copy of the notice of appeal, and the officer shall thereupon set down the appeal by entering it in the proper list. (d) The Court of Appeal shall be assisted by not less than two Assessors, to be selected, in the discretion of the Court, having regard to the nature of each case, from either or both of the following classes:—

1. Elder Brethren of the Trinity House.
2. Persons approved from time to time by the Secretary of State as Assessors for the purpose of formal investigations into shipping casualties, under Section 30 of the “Merchant Shipping Act, 1876,” and Sub-section 1 of Section 3 of the “Shipping Casualties Investigations Act, 1879.”

(e) The Court of Appeal may, if it thinks fit, order any other person or

persons, body or bodies, other than the parties served with the notice of appeal, to be added as a party or parties to the proceedings for the purposes of the appeal, on such terms with respect to costs and otherwise as to the Court of Appeal seems meet. (*f*) Any party to the proceedings may object to the appearance on the appeal of any other party to the proceedings as unnecessary. (*g*) The evidence taken before the Judge from whose decision the appeal is brought shall be proved before the Court of Appeal by a copy of the notes of the Judge, or of the shorthand writer, clerk, secretary, or other person authorised by him to take down the evidence, or by such other materials as the Court of Appeal thinks expedient; and a copy of the evidence, and of the report to the Board of Trade containing the decision from which the appeal is brought, and of the notice of the general grounds of the appeal, shall be left with the officer for the time being appointed for that purpose by the Court of Appeal before the appeal comes on for hearing. For the purpose of this Rule, copies of the notes of the evidence and of the report shall be supplied to the appellant, on request, by the Judge or other person having charge thereof, on payment of the usual charge for copying. (*h*) The Court of Appeal shall have full power to receive further evidence on questions of fact, such evidence to be either by oral examination in Court, by affidavit, or by deposition taken before an Examiner or Commissioner. Evidence may also be given, with special leave of the Court of Appeal, as to matters which have occurred since the date of the decision from which the appeal is brought. (*i*) The Court of Appeal shall have power to make such order as to the whole or any part of the costs of and occasioned by the appeal as may seem just. (*j*) Subject to the foregoing provisions of this Rule, every appeal shall be conducted under and in accordance with the general rules and regulations applicable to ordinary proceedings before the Court of Appeal to which it is brought; but there shall not be any-



thing in the nature of pleadings, other than the notice of the general grounds of the appeal, except by special permission of the Court of Appeal. (*k*) On the conclusion of an appeal, the Court of Appeal shall send to the Board of Trade a report of the case similar to that required to be sent by the Judge from whose decision the appeal is brought.

REHEARINGS BY ORDER OF BOARD OF TRADE.—7. (*a*) Where the Board of Trade direct a rehearing under Section 2 of the “Shipping Casualties Investigations Act, 1879,” they shall cause such reasonable notice to be given to the parties whom they consider to be affected by the rehearing as the circumstances of the case may, in the opinion of the Board of Trade, permit. (*b*) The provisions distinguished as (*d*), (*e*), (*f*), (*g*), (*h*), (*i*), (*j*), and (*k*) of the last foregoing Rule shall apply to a rehearing as if it were an appeal, and as if the Court or authority before whom the rehearing takes place were the Court of Appeal.

CAIRNS, C.

Dated this 17th day of April, 1880.

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#### ADDITIONAL RULES AS TO INVESTIGATIONS INTO SHIPPING CASUALTIES 1880.

The Merchant Shipping Act, 1876, 39 and 40 Vict., cap. 80.

The Shipping Casualties Investigations Act, 1879,

42 and 43 Vict., cap. 72.

39 and 40 Vict., cap. 80, s. 30.

Whereas by Section 30 of “The Merchant Shipping Act, 1876,” it was provided as follows:—“The Wreck Commissioner, Justices, or other authority holding a formal investigation into a Shipping casualty, shall hold the same with the assistance of an Assessor or Assessors of nautical, engineering, or other special skill or knowledge, to be appointed by the Commissioner, Justices, or authority out of a list of persons for the time being approved for the purpose by a Secretary of State. The Commissioner, Justices, or authority, when of opinion that the investigation is likely to involve

the cancellation or suspension of the certificate of a master or mate, shall, where practicable, appoint a person having experience in the Merchant Service to be one of the Assessors.’’

42 and 43 Vic., cap. 72, s. 3 (1).

And whereas by Section 3, Sub-section 1, of the “ Shipping Casualties Investigations Act, 1879,” it was thus enacted :—

“ 3. (1.) The list of persons approved as Assessors for the purpose of formal investigations into Shipping casualties shall be in force for three years only, but persons entered in any such list may be approved for any subsequent list. The list of those persons in force at the passing of this Act shall continue in force until the end of the year 1880, but nothing in this section shall affect the power of the Secretary of State to withdraw his approval of any name on any such list or to approve of any additional name.’’

And whereas the Secretary of State has directed that the Assessors shall, so far as in his opinion circumstances permit, be taken in order of rotation within each class or sub-class, and has further directed that the Assessors placed by him on the list of Assessors shall be classified according to the qualifications set forth in the additional Rules as to Investigations into Shipping Casualties, dated the 20th day of December, 1879.

And whereas the Secretary of State has further directed that the following qualifications with respect to Class II. Mercantile Marine Engineers, shall be substituted for the qualifications set forth in the said Rules, viz.:—

QUALIFICATIONS. — CLASSES. — CLASS II. — MERCANTILE MARINE ENGINEERS.—Five years’ service as an Engineer in the Merchant Service, and at the time of appointment holding a first-class certificate of competency as an Engineer.

Now, under the authority of the above-mentioned Acts, I, the Right Honourable Hugh MacCalmont, Earl Cairns, Lord High Chancellor of Great Britain, hereby make the following general Rules :—

COMMENCEMENT.—1. These Rules shall come into operation on April 19, 1880.

PUBLICATION OF RULES.—2. These Rules shall be published by Her Majesty's Stationery Office, through its agents, and a copy shall be kept at every Custom House and Mercantile Marine Office in the United Kingdom, and any person desiring to peruse them there shall be entitled to do so. 3. "The Shipping Casualties Rules, 1879," shall be read and construed and shall take effect, as if the qualifications above set forth with respect to Class II. Mercantile Marine Engineers had been inserted in the said Rules in lieu of the qualifications therein specified.

CAIRNS, C.

Dated this 19th day of April, 1880.

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## NAUTICAL ASSESSORS.

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WE publish this month the new List of Assessors qualified to assist at Shipping Investigations and appointed by the Home Secretary on the 20th April last.

We note that ten new names appear on the Mercantile Marine List, and that half of these reside in the outports. This infusion of new blood is a hopeful sign, and so long as the Assessors are not engaged on Inquiries held at outports where they reside, there is no reason why the List should be confined to those resident in the metropolis. One thing more is required, which we hope yet to see, and that is that these gentlemen should have some acknowledged status which would add weight to the Investigation. Their labours will be honorary without honourable acknowledgment, for we believe that the fees paid to the Assessors will, if the system of rotation be adhered to, amount to a total too insignificant to be a consideration to gentlemen of the experience and qualifications which we have no doubt are possessed by those whose names are to be found on the List.



# NAMES OF ASSESSORS UNDER THE "SHIPPING (42 & 43 VICT., CAP. 72).

| CLASS I.  |  | CLASS II.  |
|---|--|--|
| (a.)  | (b.)   |  |
| 1. Anderson, Capt. Absolom,<br>c/o Messrs. C. Tully & Co.,<br>Cails Buildings,<br>Quay Side, Newcastle. | 1. Anderson, Capt. Absolom,<br>c/o Messrs. Tully & Co.,<br>Cails Buildings,<br>Quay Side, Newcastle. | 1. Hallett, Esq., John<br>Harry,<br>120, Powell's Place,<br>Bute Docks, Cardiff. |
| 2. Comyn, Capt. David Robt.,<br>37, Cornwall Road,<br>Bayswater.  | 2. Beasley, Capt. Thomas,<br>Cavendish Villa,<br>Cavendish Road, Kilburn.                            | 2. Lang, Esq., Wm. C.,<br>Hargreaves Bldngs.,<br>5, Chapel St., Liverpool        |
| 3. Cowie, Capt. William,<br>Aracan Cottage,<br>Musselburgh.   | 3. Castle, Capt. John Squire,<br>Cleveland Cottage,<br>Sidcup, Kent.                                 | 3. Miller, Esq., Adam,<br>2, Riches Court,<br>50, Lime St., London,<br>E.C.      |
| 4. Forster, Capt. George Hy.,<br>Riversdale, St. Margaret's,<br>Twickenham.                             | 4. Clark, Capt. Robt. Feore,<br>80, Tressilian Road,<br>St. John's, S.E.                             |  |
| 5. French, Capt. Alex. Price,<br>Grange Villa, Rock Lane,<br>Rock Ferry, Birkenhead.                    | 5. Comyn, Capt. David Robt.,<br>37, Cornwall Road,<br>Bayswater.                                     |  |
| 6. Hight, Capt. Edward,<br>c/o F. Green & Co.,<br>112, Fenchurch Street, E.C.                           | 6. Cowie, Capt. William,<br>Aracan Cottage,<br>Musselburgh, N.B.                                     |  |
| 7. Harland, Captain Robert,<br>123, Malmesbury Road,<br>Addington Road, Bow, E.                         | 7. Curling, Capt. William,<br>137, Portsdown Road,<br>Maida Vale, W.                                 |  |
| 8. Kennedy, Capt. Hy. Cook,<br>39, Cricketfield Road,<br>Lower Clapton, E.                              | 8. Forster, Capt. George Hy.,<br>Riversdale, St. Margaret's,<br>Twickenham.                          |  |
| 9. Murdoch, Capt. Alexander,<br>Edinforth Cottage,<br>Wardie, Edinburgh.                                | 9. French, Capt. Alex. Price,<br>Grange Villa, Rock Lane,<br>Rock Ferry, Birkenhead.                 |  |
| 10. Vaux, Capt. Cuthbert,<br>Colham Villa,<br>Twickenham.   | 10. Parfitt, Capt. William,<br>3, Waterfield Terrace,<br>Shooter's Hill Road, S.E.                   |  |
| 11. Ward, Capt. Geo. William,<br>33, Quay Side, Newcastle.  | 11. Ward, Capt. Geo. William,<br>33, Quay Side, Newcastle.   |  |
| 12. Wilson, Capt. Rbt. Dalrieda,<br>Durning Road, Liverpool.  |  |  |
| 13. Ward, Capt. C. Y.,<br>67, Reform St., Dundee<br>(one year only).                                    |  |  |

## MERCANTILE MARINE MASTERS.

(a.)

Five years' service as a Master in the Merchant Service, of which two years must have been service in command of a sailing ship, with a certificate of competency.

(b.)

Five years' service as a Master in the Merchant Service, of which two years must have been service in command of a steamship, with a certificate of competency.

## M. MARINE ENGINEERS.

Five years' service as an Engineer in the Merchant Service with a first-class certificate of competency.

## CASUALTIES INVESTIGATIONS ACT, 1879 "

DATED 20TH DAY OF APRIL, 1880.

| CLASS III.  | CLASS IV.   |   |
|---|---|---|
| <p>1. Aplin, Rear-Adml., R.N.,<br/>29, Ashburnham Road,<br/>Bedford.</p> <p>2. Grant, Capt. H. D., R.N.,<br/>C.B., 1, Rose Hill Road,<br/>Wandsworth.</p> <p>3. Grant, Capt. J. F. G., R.N.,<br/>8, Canning St., Liverpool<br/>(in commission).</p> <p>4. Pickard, Rear-Adml., R.S.,<br/>R.N., 23, Lee Park, Lee,<br/>Kent.</p> <p>5. Powell, Rear-Adml., R.N.,<br/>C.B., c/o Messrs. Wood-<br/>head &amp; Co., 44, Charing<br/>Cross.</p> <p>6. White, Capt. E., R.N.,<br/>2, Wilton Terrace,<br/>Belgrave Square.</p> | (a.)  | (b.)  |
| ROYAL NAVY.   | PERSONS OF NAUTICAL ENGINEERING OR OTHER<br>SPECIAL SKILL OR KNOWLEDGE.                                       |   |
| Rank of Admiral or Captain,<br>and three years' service in<br>command of one of Her<br>Majesty's ships at sea, or<br>rank of Staff Commander,<br>and three years' service in<br>that rank, in one of Her<br>Majesty's ships at sea.   | (a.)<br>Such qualification as in the<br>opinion of the Secretary of<br>State requisite for ordinary<br>cases. | (b.)<br>Such qualifications as in the<br>opinion of the Secretary of<br>State requisite for special<br>cases. |

## NOTICE TO OFFICERS AND SEAMEN IN THE MERCANTILE MARINE.—COLOUR BLINDNESS.

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THE Board of Trade have decided that on and after the 15th March, 1880, the following arrangements shall be made in respect to the examination of persons as to their ability to distinguish colours.

1. Examination in colour shall be open to any person serving or about to serve in the Mercantile Marine.

2. Any person desirous of being examined must make application to a superintendent of a Mercantile Marine Office on Form Exn. 2a, and pay a fee of one shilling.

3. He must on the appointed day attend for examination at the examiner's office ; and if he passes he will receive a certificate to that effect.

4. In future the examination of a candidate for a master's or mate's certificate, who does not at the time of making application hold a certificate of competency of any grade, will commence with the colour test, and if the candidate fails in that test he will not be allowed to present himself for examination in navigation and seamanship. The fee he has paid for examination for a certificate of competency will include the fee for the colour test, and, with the exception of one shilling, will be returned to him.

5. A candidate who has obtained a certificate before these regulations came into force, and who on presenting himself for examination for a certificate of a higher grade is unable to pass the colour test, will notwithstanding be permitted to proceed in the examination in navigation and seamanship for the certificate of the higher grade ; but—

(1.) Should he pass this examination, the following statement will be written on the face of the higher certificate which may be granted to him, viz. : “ This officer has failed to pass the examination in colours.”

(2.) Should he fail to pass the examination in navigation



and seamanship a like statement, relating to his being colour blind, will be made on his inferior certificate before it is returned to him.

Information as to places and hours of examinations may be obtained from a superintendent of a Mercantile Marine Office.

THOMAS GRAY, Assistant-Secretary.

Board of Trade, March, 1880.

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### THE USE OF GLASS TRUCKS.

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THE following extract from a private journal has been forwarded us by Captain T. M. Almond, and may be of some interest to our readers. It is the more worthy of attention as we are well aware that the Meteorological Society is greatly indebted to Captain Almond for valuable services in carrying on observations for a period of eleven years :—

“At 3.30 p.m., 11th December, 1878, lat.  $48^{\circ} 10'$  N., long.  $7^{\circ} 28'$  W., the weather was very unsettled and squally ; wind from N.N.E. to N.N.W., force 6 to 8, thunder and lightning at intervals. During a sharp snow squall at the above time, in which the thunder and lightning was very severe, a sharp flash of chain lightning struck our main truck, being disintegrated as it passed by the repulsion of the truck, which was made of glass. As the lightning passed the truck it made a peculiar hissing sound, which was heard by all on deck and by the passengers in the saloon.

“When superintending the building and fitting of the *Decapolis*, I had the three mastheads protected by these non-conducting trucks. They are made of very thick moulded glass, globular, with a neck about six inches long, for fitting the truck to the masthead, and being hollow and gilded inside, they are ornamental as well as useful.

“The signal halyard block was seized to the neck of the truck, and neither block nor seizing were touched by the electric current.”

## OFFICIAL INQUIRIES WHERE

Reported since

| Ship.                                    | Casualty.  | Loss of Life. | Inquiry.   |
|--|--|---------------|--|
| <i>Travancon</i> , s.s. ...              | Wrecked in Castro Bight, on the Italian Coast, 8th March, 1880.  | ...           | Westminster :<br>Rothery, Wreck Commissioner,<br>12th April, 1880. |
| <i>Montana</i> , s.s. ...                | Stranded in Church Bay, Anglesea, 13th March, 1880.              | ...           | Liverpool :<br>14th April, 1880.                                   |
| <i>Duchess of Marlborough</i> , s.s. ... | Stranded... ..   | ...           | Liverpool :<br>Raffles, Stip. Mag.,<br>17th April, 1880.           |
| <i>Musgrave</i> , s.s. ...               | Stranded on Craig Rock, Firth of Forth, 12th March, 1880.        | ...           | Leith :<br>J.P.,<br>20th April, 1880.                              |
| <i>Amanda</i> , s.s. ...                 | Stranded off St. Bees, 9th March, 1880.                          | ...           | Middlesbro :<br>22nd April, 1880.                                  |
| <i>Maud</i> , s.s. ...                   | Stranded off Ushant, 17th March, 1880.                           | ...           | Hull :<br>Twiss, Stip. Mag.,<br>24th April, 1880.                  |
| <i>Carfin</i> ...                        | Stranded on the Gantock Rocks, Firth of Clyde, 20th March, 1880. | ...           | Glasgow :<br>J.P.,<br>26th April, 1880.                            |
| <i>Craigs</i> ...                        | Abandoned in mid-ocean, 500 miles W. of Cape Clear, March, 1880. | ...           | Greenock :<br>J.P.'s,<br>29th April, 1880.                         |
| <i>Sarah Bumyeat</i> ...                 | Stranded at Lockville, 3rd October, 1879.                        | ...           | Busselton :<br>J.P.'s,<br>11th December, 1879                      |

## CERTIFICATES HAVE BEEN DEALT WITH.

1st April, 1880.

| Nautical Assessors.                 | Finding of Court.                        | Decision.  |
|-------------------------------------|--|--|
| Picard, R.N.<br>Foster.<br>Beazley. | Master and Second Officer<br>in default. | Certificate suspended for 3<br>months.   |
| White, R.N.<br>Wilson.<br>Castle.   | Neglecting to use the lead.              | Master's certificate suspended<br>for 6 months.                                  |
| Castle.<br>Wilson.                  | Neglecting to use the lead.              | Master's certificate suspen-<br>ded for 3 months.                                |
| White, R.N.<br>Curling.<br>Ward.    | Unseamanlike navigation.                 | Master's certificate suspen-<br>ded for 3 months.                                |
|                                     | Mate in default.                         | Certificate suspended for 3<br>months.   |
| Foster.<br>Beazley.                 | Careless navigation.                     | Master's certificate suspen-<br>ded for 4 months. One of<br>lower grade granted. |
| Curling.<br>Ward.                   | Unseamanlike navigation.                 | Certificates of the Master and<br>Chief Mate suspended for<br>6 months.          |
| Vaux.<br>Murdock.                   | Abandonment not justi-<br>fied.          | Master's certificate suspen-<br>ded for 6 months.                                |
| Fergusson, M.M.                     | Culpable misconduct and<br>neglect.      | Master's certificate can-<br>celled.   |



A YEAR OF LIFEBOAT WORK.

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**D**URING the past year the National Lifeboat Institution has been enabled to add twelve new boats to its fleet now numbering 270, stationed on the coasts of the United Kingdom which extend over several thousand miles, and the Committee are now in a position to turn their attention to the gradual replacement of old and inferior boats by those of the latest and best construction.

During the year 1879 the lifeboats of the Institution rescued six hundred and thirty-seven persons from wrecked or endangered vessels, nearly the whole of them under perilous circumstances, when ordinary boats could not with safety have been employed. Our readers will rejoice that those invaluable services were performed without loss of life to any of the brave men who formed the lifeboats' crews during the year 1879 or in the preceding year, notwithstanding the fact that during the two years the boats were manned on all occasions of service and quarterly exercise by about 25,000 men.

Unhappily, however, as if to show the perilous nature of the work in which the Institution is engaged, two fatal accidents have happened since the commencement of the present year. On the 20th January last the lifeboat at Bacton, in Norfolk, was upset by an overwhelming hollow sea breaking on her broadside when boarding a wrecked vessel. On that occasion two of her crew unhappily perished, and of the remainder, eleven in number, four went round in the boat, which quickly self-righted, four were again taken into her, and the remaining three were carried safely to the shore, supported by their lifebelts, although they wore heavy seaboots, and none of them could swim. Again, on the 1st March, the Ardrossan lifeboat when returning to the harbour, in tow of a steamer, with the crew of a wrecked ship on board, was struck

by a series of heavy seas, one of which upset her. There were twenty-five persons on board her at the time—viz., thirteen forming her own crew, and twelve rescued men, of which number two of the former and two of the latter were unfortunately drowned. Feeling satisfied that the permanent efficiency of a large proportion of the lifeboat establishments must greatly depend on their frequent inspection by qualified and experienced officers, and looking to the increased magnitude of the Society's operations, the Committee have, on the recommendation of a Special Committee, increased their staff of inspectors. They have divided the coast of the United Kingdom into five districts, have appointed one to each, and decided that, instead of as hitherto living in London, they should each reside in their own districts, with the exception of the Inspector of the Home District, who together with the Chief Inspector, has duties to perform in London as well as on the coast.

By this arrangement every lifeboat station will be more frequently visited and thoroughly inspected, to ensure the efficiency of the station, the crews, and the constant solicitation to local coadjutors for cordial co-operation. The work of the institution is not confined to rewards alone to lifeboat crews; it embraces acknowledgments to the crews of shoreboats and others who gallantly save life from shipwreck. Such services are even rendered sometimes by the fair sex, who bravely exert themselves to save the lives of the stronger race, as the following service testifies. Thus the silver medal of the Institution and a copy of the vote inscribed on vellum have been presented to Miss Ellen Frances Prideaux-Brune, Miss Gertrude Rose Prideaux-Brune, Miss Mary Katherine Prideaux-Brune, Miss Beatrice May Prideaux-Brune, and Miss Nora O'Shaughnessy, in acknowledgment of their intrepid and prompt services in proceeding, through a heavy surf, in their rowing-boat, and

saving, at considerable risk of life, a sailor from a boat which had been capsized by a squall of wind off Bray Hill, Padstow Harbour, Cornwall, on the 9th August last. When the accident occurred, the ladies' boat was being towed astern of a fishing boat, and Miss Ellen Prideaux-Brune, with great gallantry and determination, asked to be cast off, and, with her companions, she proceeded with all possible dispatch to the rescue of the drowning sailor. It was reported at the time that all the ladies showed great courage, presence of mind, and marked ability in the management of their small boat, and ran great risk in getting the man into it, on account of the strong tide and sea on at the time.

The number of lives saved during the fifty-six years, from the establishment of the Institution to the end of the year 1879, either by its lifeboats or by special exertions, for which it has granted rewards, is twenty-six thousand nine hundred and six, as clearly recorded in each successive year, commencing in 1824 and ending in 1879. We cannot help dwelling on the amount of happiness which the saving of nearly twenty-seven thousand lives must have conferred on the shipwrecked persons themselves and their families, apart from the actual benefit the community at large has derived from the services of the Lifeboat Institution in contributing to preserve the lives of so many of that deserving class of men—our sailors—whose ceaseless toil, risks, and exposure bring constantly the riches of the world to our shores. In addition to the lifeboat services recorded above, two hundred and eighteen lives were saved from shipwreck by shore-boats and other means, making a total of eight hundred and fifty-five lives preserved in 1879, for which honorary or pecuniary rewards were made by the Institution. Attention is drawn to the number of lives thus saved and reported every year, proving the absolute necessity in a great maritime country like ours of a national institution for the preservation of life from shipwreck.



## CORRESPONDENCE.

*To the Editor of "The British Merchant Service Journal."*

SIR,—Permit me through your columns to publicly thank Captain Henry Faithfull, on behalf of the "Amalgamated British Seamen's Protection Society," for the thorough English article which appeared in your Journal for April last. I need hardly say that I have read and re-read the same at our weekly meetings, and that it was thoroughly appreciated and loudly applauded by every seaman present. I will not trespass upon your space by following up the thread of Captain Faithfull's arguments, in which we so thoroughly concur, but one point I cannot help alluding to, viz., the unpatriotic course pursued—"perhaps without thought"—by many British shipmasters in gradually destroying our "Mercantile Marine" and making it a "hot-bed of danger" to our country and to the nation through their persistency in shipping foreigners when "British seamen" are actually in want of employment. The danger of such a practice was so fully illustrated by Captain Faithfull that I need not enlarge upon it; but no man dare come forward, with an honest heart and a love for his country, and say with truth that the danger spoken of has no existence, or is merely a ghost story; we know from experience that there is a certain jealous hatred between foreigners and Englishmen—"perhaps excepting the French, the Danes, or a few minor nations,"—a smouldering spark, which may burst ablaze at any time should opportunity offer; and I think it the duty of every patriotic shipowner or master to guard against the very possibility of danger when there is not the slightest real necessity for incurring it.

I had occasion in my last letter to mention among other firms, that of Messrs. Donald Currie & Co. I have again

the pleasure of referring to that firm as setting an excellent example in preferring British to foreign seamen. Many of their splendid steamers are well manned by entire crews of British Naval Reserve men, others, not so fortunate, carry but a very small minority of foreign seamen, but even they are as a rule naturalized, and as such, of course, we cannot and do not object to them. The Glen Line of Messrs. McGregor, Gow & Co. also stands prominent in their preference for "British seamen," and some others, but most of them are Scotch owners, and as the "bonny Scot" has ever held a name for "patriotism," it might be easily accounted for. Again, these firms have generously kept up a decent rate of wages "throughout the long depression of trade," although foreigners might have been had for "the mere carrying of them," which shows that their patriotism was tighter than their pursestrings and consequently genuine. Other firms might well follow in their footsteps, and carry at least a majority of British seamen in their ships without loss to their money bags and with honour to themselves. We know only too well that in many instances it is not the choice of the master, but the purse of the owner which decides the nationality, quality, and number of the crew; but surely it is worth an effort on behalf of masters to have their own choice in that respect, with the prospects of the satisfaction of knowing that right has been done to their own feelings, to their nation, and their country. We do not ask owners or masters to adopt extreme measures at once, it would perhaps be imprudent; all we ask is that no ship should be manned by more than one-fifth of the crew foreigners. That would give our "British seamen" a chance, and a chance also to the aliens, but would prevent any further influx of them from the inexhaustible Continent, where men seem to grow from the earth. Thirty-four thousand emigrants landed in New York in March last: we pity poor America, but rather there than here; we are

limited for space, America is not, and we could well afford a few hundred thousand to emigrate from here.

In conclusion, I will say that such articles as the one by Captain Henry Faithfull, if well circulated and read, would do immense good to the cause we all advocate, viz., the purification and elevation of our "Mercantile Marine" to something higher and better than it is at present, and with such men at the helm of shipping affairs as Mr. Chamberlain, Mr. Thomas Brassey, &c., we may yet expect something useful from Government, in spite of the predictions of "W. C. S." to the contrary, for all we have lost a true friend in Lord Sandon.

I am, Sir, &c.,

WILLIAM PATERSON LIND,

*General Secretary,*

*Amalgamated British Seamen's Protection Society.*

## ON CAUSES OF UNSEAWORTHINESS IN MERCHANT STEAMERS.

By B. MARTELL, Esq., Chief Surveyor of Lloyd's Register of British and Foreign Shipping, Member of Council.

*(Read at the Twenty-first Session of the Institution of Naval Architects,  
17th March, 1880.)*

(CONTINUED FROM PAGE 210.)

IN the case of vessels about to be built, if we consider the dimensions of vessels now engaged in the grain-carrying and similar trades, in connection with the results of these calculations which have been given, we shall have no difficulty in arriving at one or more sound conclusions which I sincerely hope will be accepted, as it may tend to their increased safety. It may be said almost with certainty that many of these steamers combine in themselves many of the worst features which contribute to instability and consequent unsafety.



1st.—Small relative breadth to both depth and length.

2nd.—Great fulness of form throughout below the water-line and extreme flatness of floor.

3rd.—Low freeboard.

4th.—Undue height and extent of double-bottom.

The remedies, as I before stated, are greater beam, a more shapely form, a greater freeboard, and a double-bottom not deeper than necessary for the purposes of water-ballast.

But notwithstanding that these suggestions may be adopted advantageously, and a more stable vessel be obtained, it still remains, if we keep to the present "Three-deck" vessels, that we have a type of vessel intended in point of strength to be fully laden, but that when so laden having a very low freeboard, and therefore not the most suitable for encountering heavy seas.

And here the question arises whether the building of another type of vessel could not be encouraged which combines more elements of safety than the "Well" ship or the "Three-deck" vessel, and could perhaps be worked as economically.

Between the long poop and forecastle ship, having a high freeboard at each end, and a very low waist, and the full scantling "Three-deck" ship, with short coverings over the ends and engine and boiler openings, with a low freeboard nearly all fore-and-aft, it may be asked, and often is asked, cannot a type of vessel be devised with a good freeboard all fore-and-aft that shall be an equally good paying and safer ship. It seems a question capable of easy answer, but in reality it is mixed up with many others that open up a vexed field of enquiry. It is often asked why in cargo steamers of the long poop type, where the poop and forecastle together cover perhaps two-thirds the length of the ship, the further obvious and inviting step is not taken of covering in the "*well*," and getting a good safe freeboard all fore-and-aft? The answer usually is that the prescribed draught of water of the vessel would not admit of cargo being carried in the new part, whereas the tonnage dues would be considerably increased. This question of tonnage measurement is indeed the great obstacle to improvement in the types of ships for the Atlantic trade, and especially the grain trade, as it handicaps both the awning-deck and the spar-deck type of ship, which naturally lend themselves to the maintenance of a good healthy freeboard and freedom from capsizing. I have given you an instance of one of these ships; a spar-deck vessel, which knocked about abandoned for days nearly on her beam ends with grain cargo, shifted in heavy weather, and did not capsize. In fact, she could not capsize, because only a small part of the cargo was between decks, and its total centre of gravity was

sufficiently low to give the vessel in a measure the righting properties of a lifeboat.

The objection to the type is, that all this 'tween-deck space, which gives great safety to the ship, but earning no freight, has to pay tonnage dues, just as if the whole ship was filled right to the upper deck, and loaded two or three feet deeper.

Of course it may be said this tonnage question is an old one, and has been debated over and over again. This is quite true; but I think few believe it is yet satisfactorily settled, and it is to my mind so intimately mixed up with this great loss of life and property at sea, that this must be my excuse for again raising it. Where a vessel is covered with a lighter superstructure, such as an awning-deck, for purposes of safety, and which cannot possibly be filled, or nearly filled with cargo, unless the ship is allowed to be loaded below the main-deck, I would ask why the space actually occupied by cargo should not be measured, as is now done by the recent Merchant Shipping Act, with deck cargoes, instead of the whole space, or say a certain deduction made from the 'tween-deck space? No doubt there are difficulties in the way, but they are, to my mind, small compared to the great end that would be achieved, and I trust this Institution will give it their most serious consideration, and press it on the attention of the proper authorities.

It is only those intimately associated with the Mercantile Marine who see how often, day by day, sometimes comparatively in small things, the tonnage laws tend to prejudice the safety of ships.

When, for instance, it was found that low and inefficient wood coamings to hatchways in cargo steamers contributed to their loss in several instances, iron coamings came into existence; and as this material enabled the coamings to be made much higher without practical difficulty, a very beneficial change set in towards making them high, so as to reduce the chance of heavy seas forcing them in, or large bodies of water resting on them. This was discouraged by the space so enclosed being added to the tonnage measurement, and so adding to the working expenses of the ship.

The same may be said of the protection round the openings of the engine and boiler space. The best protection possible is an enclosed bridge house around the engine and boiler openings; but as the law at present stands, it encourages the ends of this bridge superstructure being left open instead of being closed by iron bulkheads.

I was much struck with this a few months ago, when I officially visited a large number of steamers in course of construction in the North for the Atlantic trade, and on pointing out to the owners or builders the desirability of continuing the bridge house to the sides of the vessel, and enclosing



it so as to secure effectively the casings round the engine and boiler openings against heavy Atlantic waves, I was invariably met by the observation that it would add too much to the working expenses of the ship, as this space would be measured for tonnage.

Where builders and owners are willing to incur outlay in the first place to secure additional safety, it is rather too much to put a tax on them for this outlay for ever after.

These are all parts of the great question whether the tonnage laws could not be so amended as to encourage safety and safe types of merchant ships, rather than as at present tending sometimes in the opposite direction.

We all know that those who administer the tonnage laws are as desirous as any of us to contribute to the safety of life and property, and it is towards the *amendment* of the law, rather than to censure its administration, that my remarks are directed.

I now come to a branch of the subject that has for months attracted considerable attention, and it is one of great importance. I refer to the losses of grain-laden ships during the present Winter. It may be in the recollection of many of my hearers that a series of almost unparalleled disasters occurred during the Winter of 1872, and led to much excitement. I cannot help believing that the great attention the subject received at the period mentioned led to greater care being exercised by those responsible for the loading of grain cargoes in the succeeding years, for the losses were immediately reduced.

The losses of the present year have also produced considerable excitement, and show that this subject of grain cargoes still requires careful attention. This is a matter which unfortunately can only be controlled indirectly from this country, for the very simple reason that the vessels are loaded in foreign ports, and if from insufficient attention to the stowage by those entrusted to supervise it the vessel is lost on the voyage, neither the evidence nor the persons guilty of the negligence are forthcoming in this country for examination. The most we can hope to do at this Institution is, I fear, to make the perils of improperly-stowed grain cargoes known as widely as possible, and to point out the best practical remedies known to those who have given particular attention to the subject. That the cure for wholesale disasters lies within practicable limits may, I think, be taken for granted, and it is borne out by the improvement effected immediately after the disasters of 1872.

Further striking evidence of the same kind may be obtained from experience of the grain trade of Montreal. No port on the American Continent, it has been stated, suffered more from the loss of grain-laden ships than that port did previous to 1873; and it will be seen from the Table of



Losses that within a period of four weeks during the winter of 1872, no less than six steamers grain-laden from Montreal either foundered or were missing. At Montreal, it may be known to many, they have a Port Warden, invested with certain powers over the shipping loading in the port. Up to the date in question, 1873, a shipmaster loading grain in the port was liable to a fine of 40 dollars if he did not comply with the Port Warden's regulations.

This fine was so ridiculously low that shipmasters used to pay it as a matter of course, and load their ships as they liked, and numerous losses used to ensue.

In that year, however, the fine was raised to 800 dollars for evading the Port Warden's regulations, and since that time *not a single grain-laden vessel* from the port of Montreal has foundered at sea.

These regulations, together with some unofficial ones, more or less enforced at the ports of New York, Philadelphia, Boston, and Baltimore, all stipulate for the fitting of shifting boards, and for carrying a portion of grain-cargoes in bags.

We have shown that in the case of Montreal the measures now taken for enforcing the regulations are exceedingly stringent, and that they have been of late years exceedingly effective. The recent losses of grain-laden vessels we have to deplore have arisen among ships loaded at the United States and Black Sea ports, and the question naturally arises whether the rules for loading grain, set forth by the Surveyors to the Underwriters' Association at these ports, are fairly enforced. It has been objected that Montreal is scarcely a typical port, because the St. Lawrence being closed by ice during a portion of the winter the average losses may be expected to be less. But this certainly did not prevent the great losses which occurred from this port previous to the regulations of 1873.

When recently in America I had opportunities of observing the loading of grain in bulk by means of elevators, and the difficulty of properly filling the hold by such means is only too apparent. The continuous stream of grain which pours in produces a stifling dust to such an extent that it is beyond human endurance to remain in the vessel sufficiently long to properly trim it, so as to fill the hold in the wings under the stringer plates and similar places.

To show the serious nature of this, I may mention that during my visit there a steamer had left port so loaded, and after encountering heavy weather had to put into a neighbouring port, when it was found the grain had settled to such an extent as to require over twelve hundred bushels to fill the after-hold alone. Many opinions exist as to the settlement of cargoes of grain shipped in bulk during a stormy voyage, but there is no

doubt it is greater than is generally supposed with the present dispatch of loading.

Another instance of this I may mention, in the case of a "Three-deck" steamer, recently arrived home from an American port, loaded with grain in the hold in bulk sufficiently high to enable just two tiers of grain in bags to be stowed between the top of the bulk grain and the middle-deck beams. The depth of hold to the middle-deck was 17 feet; and it was found that, on the removal of the hatches, though the grain had been stowed in bags on boards laid on the top of the bulk grain, these had settled so much in some places as thirty inches.

Somewhat similar instances may be given, where the grain had been stowed in bulk to a height of a foot or more above the hold beams, with bags on top stowed on boards and extending up to the deck, and the vessel having put back, it was found that the bulk grain had settled below the beams and shifted, leaving the bags and boards resting on the beams.

The foregoing are sufficient to show that as at present loaded at some ports the grain in many of the vessels settles down to a considerable extent, thus rendering it impossible to keep the compartments full.

It must be evident that with such experience as this, shifting boards fitted only 3 or 4 feet deep below the beams, as is often the case, are next to useless to prevent displacement of the cargo.

It is well known that all grain will settle somewhat on a long voyage even when it has been carefully trimmed into the wings and under the beams and stringers. Some description of grain of course more than others. The large amount of settling down in grain cargoes which has recently been heard of, however, must be due in great measure as I have indicated to the haste with which the grain is run into the vessel's hold from the elevators, and which does not admit of its being properly trimmed under the beams and stringer plates. I have heard of steamers of from 1,200 to 1,800 tons laden in some of the American ports within ten hours, and where this is the case it is obviously impossible to attend to the trimming.

If we glance briefly at the conditions of grain-loading, they will be seen to be somewhat as follows:—

1.—The simplest is that of vessels having only one deck, with or without hold beams, and carrying grain of such a kind that her holds can be filled without the vessel being overladen. Here, it appears easy enough to fill the hold with bulk grain, as has been customary from the Baltic and Black Sea ports; and this mode with proper shifting boards, might not be unsafe, provided the grain be properly trimmed into the wings, and trodden down so as to obviate any danger of its settling materially during the voyage.



In fact, this practice has been adopted for years, and when adequate care has been taken it has been done successfully. Or, still better, the hold may be filled up to within a few feet of the deck with bulk grain, then properly trimmed and levelled and covered with boards, the remaining space up to the deck being filled in tightly with grain in bags. Shifting boards should, of course, be fitted as in the previous case, and it is of great importance that these should be sufficiently strong, and extend well down into the hold—in my opinion to the keelson.

2.—The step from this is when the same ship has to carry a cargo of grain too heavy in its nature to enable the holds being completely filled without being overladen. This, perhaps, occurs oftener in sailing ships than in steamers, but the principle to be borne in mind in both is the same—viz., that, in whatever part of the ship grain is loaded, the cargo should reach to the deck. To carry this out, it is necessary to bulkhead off the part of the hold that is not to be utilised so that the remainder can be properly filled up. This has to be done with due regard to the trim of the ship and her depth of loading, but is often not sufficiently considered. If too large a space is left for cargo, it may become a choice of two evils, as the vessel fills up, either of the vessel being overladen, or the holds not being properly filled. Again, it has not unfrequently happened that these temporary bulkheads have given way through the pressure of grain as the vessel pitches at sea, when of course the surface would become free, and shifting would take place. When adequate precautions are taken against these contingencies this case resembles No. 1, and I need not further dwell upon it.

3.—The next typical case is that of a vessel having two complete decks laid, carrying grain of such a nature that her holds can be completely filled, and also between-decks, to the upper deck, without being overladen. This, I may state at once, is one of the most difficult and troublesome of all to deal with, as you will immediately see. The lower hold resembles the hold of the one-decked vessel, but with this difference: in the latter if, after all precautions have been taken, it is found the ship has got a list at sea, the hatches can be opened, if the weather moderates, and the grain can be retrimmed before it has gone too far, or it can be filled up from bags carried for this purpose.

In the former case, however, all access to the cargo in the lower hold is cut off by the cargo in the 'tween-decks, and a slight list may go on increasing until it becomes serious, unless the lower hold is well secured against such a contingency. Again, the cargo in the 'tween-decks itself may be capable of shifting, and thus the danger is two-fold in this type of ship as compared with a vessel having only one deck laid.



Many devices have been resorted to in these vessels for securing their safety, but they may be ranged generally under two heads based on two different principles.

One is to make the stowage of the lower hold complete and distinct in itself, securing the bulk grain by means of boards and bags on top of same, and with shifting boards extending, in some cases, down to the keelson, and carrying the remainder of the cargo between-decks in bags. The other principle is to provide feeders to the lower hold from the 'tween-decks, so that, in the event of the grain settling below, loose grain will run down to fill up the empty spaces.

It can scarcely be said of either of these principles that it is unsound, but much depends upon the way in which they are carried out. This is especially so in the latter case, for it is difficult with a deck laid to make the arrangements for feeding from the 'tween-decks sufficiently perfect. This is especially so where the lower deck is of iron. Where it is of wood it is common for a few strakes of deck on each side near the stringer to be lifted, and these, together with the hatchways, fulfil, to some extent, the object of filling up the empty spaces in the lower hold caused by grain settling.

Where the deck is of iron, a series of small hatches are sometimes cut at the side for the same purpose, although frequently the communication is by no means sufficient to insure the lower hold being efficiently fed from between-decks. Another important point to be borne in mind in reference to this mode of stowing grain cargoes, is that by feeding the lower hold from the 'tween-decks the risk of the 'tween-deck cargo shifting is increased.

Sometimes the 'tween-decks is filled with a combination of bulk and bag grain, the bags being piled round the hatches and feeders, where loose grain is stowed in bulk. This has often been adopted with safety, but it is by no means perfect. It is not certain that the grain under the middle line hatches could find its way into the wings, and I have heard of instances which indicate that it does not always do so in cases of grain shifting; and although the same doubt does not apply so distinctly to feeders in the wings, they have another important drawback not generally noticed. In the case of the grain below deck shifting, and an empty space being left on one side, it will be clear that the feeders on that side might be called into play, and be emptied into the lower hold while the other side remained full. This, however, would obviously not cure the list of the ship, and is therefore not sufficient.

In some cases trunks have been led down from the upper deck to the lower hold, so that grain could be poured down from bags to fill up the empty space, in the event of the grain settling or shifting.

4.—The other typical case is that where the lower hold is filled with grain, but a portion only of the 'tween-decks is filled, as in the case with spar-decked vessels, and sometimes with "Three-deck" ships. In this case temporary bulkheads have to be fitted between-decks to contain the latter, and the lower hold has to be made secure against shifting, as in the previous case. I have indicated that spar-decked steamers so loaded with the main-deck out of water, may have great elements of safety, in consequence of their much greater freeboard, as compared with "Three-deck" ships of similar size loaded as is customary; and it may be remarked that in the recent losses, not one of this type of vessel is to be found. Hence the desirability, which I must repeat, of encouragement being given to such a type of vessel, with which this mode of loading is necessarily connected.

In the foregoing rapid sketch of the conditions of grain-loading, I have necessarily been compelled to confine myself chiefly to the principles involved, and have had to omit many variations in detail, and devices resorted to under the different conditions of loading which exist. I cannot however pass from this question of grain-loading without a word on the proposal to carry all grain in bags. This is a question that is now receiving investigation by a Select Committee of the House of Commons, who will, I doubt not, arrive at a sound conclusion on the subject. That it would be more expensive there cannot be a doubt, and my enquiries have led me to the conclusion that this would amount in an American voyage to about  $8\frac{3}{4}$ d. per quarter, or say £360 per voyage in a vessel of about 1,200 tons nett register, including the cost due to delay in loading. That a cargo composed, partly of bulk and partly of bag grain, can be made as safe as a cargo containing all bags, is a question on which all practical men are agreed, and I think I have shown that behind the losses which have occurred there lie dangers from deficient stability and other causes which would not be cured by carrying all grain in bags, and my endeavour has been, so far as I have been able, to shadow forth the relative magnitude of the different sources of peril.

In fact, the figures themselves in the Table of Losses show that there were as many coal-laden steamers as grain-laden steamers lost during the months of the past winter; and although it is possible for coal to shift similarly to grain, it is not a cargo which is prone to shift, or which would be considered dangerous in a fairly-designed vessel. In view of these facts there is nothing to show that the inherent deficiency of stability of the vessels, loaded as they were, might not have been as active an agent, if not a more active agent, in creating the disasters we deplore, as the shifting of the cargo.

One other cause of danger, which I mentioned in the early part of this Paper, remains, viz. :—overloading, and I need not dwell upon it, for my views on that subject have been laid before this Institution at great length on previous occasions. That it is a serious source of peril will be evident from the calculations and diagrams I have laid before you, while it is a subject surrounded by enormous difficulties every one will admit who has attempted to deal with it; but it is hoped that, by attention being drawn to the subject in a manner to show the magnitude of the evils which result from it, this source of danger, which is getting less, will soon altogether disappear.

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T H E  
BRITISH MERCHANT SERVICE  
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THE INNER PASSAGE TO TORRES STRAITS.

THIS passage is, owing to the large and increasing trades between the East Coast of Australia, and the ports of Batavia, Singapore, and Hong Kong, becoming of great importance, and the steamers of the “Eastern and Australian” and Australian Steam Navigation Company, are constantly navigating its waters, and the Inner Passage will, I have no doubt, when the advantage of using it is better known, become a great highway for all traffic by steam from the Indian and China ports, to New Zealand and the Eastern Australian ports.

The following remarks are by one who recently passed through the Inner Passage in a sailing ship, and will, I trust, be found of use to some of the members of the Shipmasters’ Society, should they find themselves so placed that the passage may recommend itself to their notice.

The passage is protected from the ocean swell by the Great Barren Reefs which extend from Torres Straits to the Swain Reefs, and its waters in consequence are comparatively smooth. It is entered from the north between the Home Islands and Haggerstone Island, and from the south by either the Curtis or Capricorn Channel. The writer

entered by the latter channel, which is considered the best, as it is certainly the widest and the most free from danger. Curtis Channel is entered between Lady Elliot's Island and Breaksea Spit, and if intending to enter the Inner Passage by Curtis Channel, do not keep to the westward until the sand hills on Sandy Cape dip below the horizon, while at night the light on Sandy Cape must be dipping before a ship is kept to the westward to round Breaksea spit; pass south of Lady Elliot's Island upon which there is a fourth order dioptric light, flashing at intervals of half-a-minute and visible 11 miles.

After passing Lady Elliot's Island a course should be shaped for Bustard Head and Cape Capricorn, and the coast kept well on board until High Peak Island is sighted. To enter by the Capricorn Channel, bring the sand hills and light to dip as before on a bearing of S.E. or S.E. by S., then steer for North Reef which may easily be distinguished by the lighthouse on it, which is painted white, and shows at night a fixed and flashing light, visible 13 miles in clear weather.

The Bunker Group will be to the westward of a ship using the Capricorn Channel and is composed of low bushy islets and a number of dangerous sandbanks.

When abreast of North Reef steer for High Peak Island. This Island is high, and conspicuous, and may be approached at night if the weather is clear. From High Peak steer to the westward of the Percy Islands, and to the eastward of Northumberland Islands and Beverly Group, and make for the Whitsunday Passage, leaving Bailey Island, the *l* islands and Sir James Smith's Groups to the eastward, and entering the Whitsunday Passage, between Cape Conway and the Shaw Islands, steer through the passage, keeping as near mid-channel as possible. The tides are irregular and run very strong in the Whitsunday Passage, and their strength is not confined to full and change.

From High Peak Island. A ship might pass to the eastward of the Percy Islands, and the Groups already mentioned. This would lead outside Whitsunday Island, but until the new survey (now in progress) is complete, it would not be prudent to do so. The eastern track is much deeper than the track inside the Percy's, and therefore not so handy for anchorage.

There is now a light shown from Dent Island and facing the south end of Whitsunday Passage. After clearing Whitsunday Passage, steer for Cape Gloucester (high), and when abreast of it steer for the Palm Islands (high), passing Cape Bowling Green and Cape Cleveland at a safe distance. Cape Bowling Green is very low and has on it a lighthouse showing a revolving light one minute and visible 14 miles. Cape Cleveland is moderately high and a lighthouse has been recently erected on it, showing a revolving light 30 seconds. When abreast the Palm Islands steer for Cape Grafton, keeping a sharp look-out for the numerous small islands, reefs, and sandbanks on either side; this course is almost straight, but very narrow. In the *Decapolis* we anchored at Cape Grafton for the first time, and after throwing ballast overboard went into Port Cairns to load cedar for London.

August 30th, 1878 (8 p.m.). Got under way from the anchorage under Cape Grafton and proceeded to the northward; wind S.E., strong. From Cape Grafton the best track is to the eastward of the largest of the Low Islands, upon which there is a lighthouse, painted white, and showing in the night time a bright revolving light one minute. From Low Islands steer for Cape Tribulation; this Cape may be known by a very high (3,311 feet) and peculiar mountain at the back of it, called Peter Botte.

From Cape Tribulation steer for Cape Bedford; this Cape is very high and bold, and may be seen a gréat distance. In following this course you will have to pass inside of or between the Hope Islands and sandbanks; some of the



sandbanks are *low* and not *easy* to distinguish until close to them, so that in passing them a very sharp look-out must be kept from aloft. From Cape Bedford steer for Cape Flattery, which is of good elevation and not easily distinguished, and when abreast of it steer for Lizard Island, a bold conspicuous Island. Pass between Lizard and Eagle Islands, keeping a sharp look-out for the reefs, which extend from them a long way. Good anchorage may then be found in 9 to 10 fathoms north of the Turtle Group.

August 31 (7 p.m.). The *Decapolis* was anchored in 9 fathoms, Cape Flattery bearing S. by E.

September 1 (6 a.m.). Got under way, and steered to pass south of the Howick Group. When up to this group a red beacon will be seen marking a reef to the southward of you; and Noble Island, a conspicuous and conical island on the port bow. The best course then is to leave the reef and island to the southward and steer for Barrow Point; from thence steer for Cape Melville, keeping a sharp look-out for the shoals on the land side, and the continuous reefs to seaward; also for the Bloomfield Rock which lie to eastward of mid-channel. When rounding Cape Melville look out for the Boulder and Channel Rocks, and the reef extending off Pipon Island, which is well defined and may be approached to within half-a-mile; pass to northward of Channel Rock Lightship.

On September 1st (7 p.m.) the *Decapolis* was anchored in 9 fathoms, Channel Rock Lightship bearing N.E. 4 miles.

September 2nd (6 a.m.) Under way again; wind still fresh at S.E. From Channel Rock a course should be shaped to pass close round the north end of Flinders Islands; these islands are easy to make out, and one of them, Castle Hill, is remarkable for its resemblance to a ruined castle. From the Flinders Islands steer for reef *d*, marked with a red triangular and also a mast beacon. Pass beacons *d*, *e*, and *f* on either side and you will, in passing, see three other

beacons, black and square, to the north of them. From reef *f* steer to pass between Pelican Island and No. 1 Claremont Island; pass to the eastward of Nos. 2 and 3 Claremont, between Nos. 4 and 5 Claremont, then between No. 6 Claremont and the Heath Rocks. It will be best to pass close to the westward of the lightship marking Heath Rocks. No. 7 Claremont must be left to the eastward, and No. 8 to the westward. As you approach No. 8, look out for Chilcott Rock, marked with a red beacon.

September 2nd (6 p.m.). The *Decapolis* was anchored in 9 fathoms, with No. 8 Claremont bearing S. by W.; wind S.E., strong.

September 3rd. Wind very strong at S.E. Under way again at 6 a.m. From No. 8 Claremont steer for Cape Direction, leaving Night Island to the westward, the *tt* and *v* and the Sherrard Islands and the *y* reef to the eastward; be careful in rounding Cape Direction as the channel here is very narrow and the shoals run a long way off from the land. From Cape Direction steer for Cape Weymouth, keeping a look-out for the *a* and *b* reefs and Sandy Island to the eastward of you. When opposite Cape Weymouth steer for the Piper Islands and *k* reefs, and keep a very strict look-out for the long reefs to the east of you, and a reef marked with a red beacon to the westward. Pass Piper Island lightship on the west side and steer for Young Island, marked with a beacon; pass between Young Island and *m* reef, or, if preferable, to west of both these dangers; you may then steer for the Home Islands, and, rounding them, enter Torres Straits.

After rounding the Home Islands and Cape Grenville, the *Decapolis* here anchored in Shelbourne Bay at 7 p.m., September 3rd, in 7 fathoms. This is a snug anchorage.

September 4th (6 a.m.). Got under way; wind S.E. Proceeded through Torres Straits and cleared the Prince of Wales' Channel at 3.30 p.m., signalling to Goode Island as

we passed it ; and 4 days and 18 hours from Cape Grafton. A captain navigating the Inner Passage for the first time should have an officer's look-out from aloft, and when the ship is under way be in charge of the deck himself, for even in the acknowledged best track the passage is so narrow in places that the least inattention might lead to a disaster.

The compasses also should be well adjusted, the lead in constant use, and the anchor clear for letting go, with a range of about 10 to 12 fathoms, on the cable, as throughout the passage it is scarcely necessary to anchor in deeper water. It is not prudent to go too close to the edge of the reefs, for though some of them are well defined, there are others which are deceptive and therefore dangerous to approach. From May to September the wind is generally fresh at S.E. to E.S.E., and consequently fair for a passage from Australia to India or China. The currents are uncertain and as a rule run with but little velocity, and, I believe during the season here mentioned, generally to the N.N.W. Appended is a list of the Lights and Lightships, and also of the Beacons, with their distinguishing colours and shapes, taken from the Queensland Port Office Directions :—

#### LIGHTHOUSES AND BEACONS.

|                      |     |     |     |   |                      |
|----------------------|-----|-----|-----|---|----------------------|
| Sandy Cape           | ... | ... | ... | R   | 29 min., 27 miles.   |
| Lady Elliot's Island |     | ... | ... | R   | $\frac{1}{2}$ „ 11 „ |
| North                | ... | ... | ... | Ea & Eg   | „ 13 „               |
| Dent Island          | ... | ... | ... |   |                      |
| Cape Bowling Green   |     | ... | ... | R   | „ „                  |
| Cape Cleveland       | ... | ... | ... | R   | „ „                  |
| Low Island           | ... | ... | ... | R   | 1 „ 10 „             |
| Channel Rock         | ... | ... | }   | Lightships, fixed lights,<br>visible about 10 miles.. |                      |
| Heath Rocks          | ... | ... |     |   |                      |
| Piper Islands        | ... | ... |     |   |                      |



## HOPE ISLANDS.

*Red and Triangular.*

- a* Reef, north-west end.  
*c* Reef, north end.  
*d* Reef, centre.

*Black and Square.*

- b* Reef, west end.  
*e* Reef, west end.

## POINT LOOK-OUT.

Sand-bank dry, with rocks E.S.E.

$2\frac{1}{2}$  miles from Point Look-out.

## COLE ISLANDS AND HOWICH GROUPS.

*r* Reef.

*s* Reef, west side.

## PRINCESS CHARLOTTE'S BAY TO FAIR CAPE.

*d* Reef, east end.

*c* South-west end.

*e* Reef, centre.

*g* South-west end.

*f* Reef, centre.

*l* West side.

Heath Rocks, centre.

*m* West side.

Chilcott Rocks, centre.

No. VII. Islet, west side.

Reef in lat.  $13^{\circ} 18' 30''$  S., west side.

*tt* Reef, west side.

*v* Reef, south-west end.

*y* Reef, centre.

Middle Reef, south end.

*e* Reef, north-west end.

## PIPER ISLANDS.

East elbow of Eastern Reef.

*h* Reef, south end.

## YOUNG ISLAND.

North-west side.

## CAPE GRANVILLE TO PORT ALBANY.

*v* Reef, north-west end.

*x* Reef, north-west end.

*z* Reef, west end.

## PRINCE OF WALES CHANNEL.

Spili Rock, centre.

North-west Reef, Hammond  
 Rock bearing S.W., Ince Point  
 E. by S.  $\frac{1}{2}$  S.

The latest charts and a book of directions would, of course, be procured before attempting this passage.

T. M. ALMOND.

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 THE SHIPMASTERS' SOCIETY'S ANNUAL  
 REPORT.
 

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IN our next number we shall publish an account of the proceedings of the Fourth Annual General Meeting of the above-named Society which was held on the 14th inst., at the Cannon Street Hotel, when the following Report was presented:—

“ It is a source of gratification to your Committee, that they are able, in their Fourth Annual Report, to announce that the Society continues in a prosperous condition, and that its value is becoming more generally appreciated. During the past year 133 new Members have been enrolled, thus bringing up the total, since the formation of the Society, to 573.

“ Notification of the deaths of the following named Members has been received:—T. Ayling, A. P. Clark, H. Carter, A. Donald, J. G. Everett, T. Louttit, S. Spowart, and H. Tapp.

“ The following resignations have been accepted:—C. Brown, D. F. Brown, W. Brown, J. Carbines, and G. F. Thompson.

“ With the removal of these fifteen names the Register, on the 31st March, shows a total of 538 Subscribing Members,

of whom 456 are Masters, 31 Officers, and 51 Honorary Members.

“ It is a matter for congratulation that the Society has sustained its satisfactory financial position, for it must be borne in mind that the past year has been one of almost unprecedented depression in all classes connected with shipping.

“ The Balance to the credit of the Society is £167 16s. 11d., being an increase of £50 upon that of the previous year. To this amount must be added the further sum of £156 2s. od., which remains to be collected from Members abroad.

“ Your Committee would here draw attention to the large amount in arrear, and would most earnestly urge all Members to make arrangements for the more prompt payment of subscriptions, and thus place a larger amount at the disposal of the Society.

“ Your Committee are pleased to say that there have only been two Courts of Inquiry held, in which Members of the Society have been concerned, viz., the investigation into the stranding of the *Garonne*, s.s., on Tapley Shoal, but in which instance no material damage was sustained, and the loss of the *Norah*, s.s., owing to stress of weather. In the latter case, the Master having been highly commended by the Wreck Commissioner, the Society's Solicitor considered it right to apply for costs, but these were disallowed. Hence it would appear that the Courts, though allowing costs to the Board of Trade, do not entertain an application on behalf of the Master.

“ In the early part of last year, your Committee considered it advisable to initiate an exchange of opinions amongst the kindred Societies, in order that a basis for united action might be attained. Their appeal met with a very hearty response, and a meeting of delegates somewhat later in the season established a cordiality which your Committee earnestly desire may never decrease.



“ The unity of action displayed on the occasion of the introduction of the Shipping Casualties Investigations Rehearing Bill effected considerable alterations in the provisions of that measure, and the concessions granted by Lord Sandon have been thoroughly appreciated by all officers of the Mercantile Marine, who desire to record the expression of their gratitude to the late President of the Board of Trade.

“ Strenuous opposition has been (and is still being) offered to the rules for conducting the Inquiries, but thanks to Lord Sandon's determination to render justice to the service, the demoralizing system by which the Courts were permitted to select their Assessors has been abolished.

“ Your Committee directed their attention to the regulations issued by the Thames Conservancy, and made most earnest appeal to the Board to enforce that which is the only means for promoting safe navigation, viz., the “ star-board-side ” rule. Unfortunately the Conservators were not of the same opinion as the Members of this Society, and they elected to adhere to a system which has been generally condemned by the owners and masters of seagoing vessels.

“ The shipment of grain in bulk has been the subject of lengthy discussion at the monthly meetings. The appointment of a Select Committee of the House of Commons to inquire into this vexed question is in accordance with the representations made by this Society, and will no doubt be beneficial.

“ From the welcome accorded to the *British Merchant Service Journal* your Committee anticipate a prosperous future for the publication, and they would request all subscribers to assist in bringing the same prominently before the notice of those interested in the profession. Being devoted to the cause of the service it has proved a means for ventilating and attracting public attention to many grievances, and has materially assisted in drawing nautical men more closely together.

"Your Committee are led to express their hope that, as the Society becomes more generally known, shipowners requiring officers will make more frequent application to the office, where a Register of Masters and Mates requiring employment is always open to their inspection. Though few applications have been made during the past year, through the instrumentality of the Society appointments have been obtained for about fifteen members.

"Before closing their Report your Committee would plead on behalf of the Widow and Orphan, and beg all to contribute a sum, however small, to such a laudable cause. Very few Donations have as yet been received, and your Committee cannot but think that this is owing to Members being unaware of the existence of a Charity Fund, for they feel assured that every Master Mariner would contribute his mite, and thus provide the means for relieving the distress of the widow or child of a brother shipmaster.

"The cordial thanks of the Society are due to Mr. Norwood, M.P., and to Captain Bedford Pim, R.N., late M.P., for most valuable assistance on the occasion of the introduction of the Shipping Casualties Investigation Bill, to Sir Andrew Lusk, M.P., for presenting petitions, and to numerous Members of the House of Commons for furthering the interests of the Society."

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## THE "MIDGE" SYSTEM.

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THE *Daily Chronicle* reports a meeting held a few weeks ago at the Vestry Hall, Cable Street, St. George's-in-the-East. The Chair was occupied by Mr. F. Dellow. The Chairman, in opening the meeting, said that for a long time past trade in the East-end of London had been in a very depressed state, and he could only attribute the cause to the *Midge system* instituted by the Board of Trade. He

then proceeded to explain the system. It is that all ships coming into the port of London were boarded, and the sailor induced to have his money forwarded to whatever part he was going to ; a railway ticket given him and ten shillings in money. There was no doubt that such a system greatly affected trade, for during the two years that the system had been in force £25,000 in wages had been transferred from London to different parts of the country. The Board of Trade, he had no doubt, did not foresee the harm it would do when they introduced the system, and he did not think it would have affected trade so had it not been confined to the London port, but he felt certain that until it was extended to all ports there would not be any revival ; and he exhorted the meeting not to be content with promises, but to continue to agitate until their point was gained. Mr. Churchwarden Coombe said it was a fact that the ratepayers were largely robbed through the working of this Act ; sailors got credit of tradesmen and boarding-house keepers upon the representation that they were to be paid off in London, and the tradesmen were left to discover that their pay had been forwarded on to some port or other part of the country. He moved an adoption of a petition to Parliament, praying for a remedy for the grievance complained of, and read it to the meeting. The motion was seconded by Mr. Rallard, and carried. Mr. Ritchie, M.P., said he had for some time interested himself in the question, and he believed the working of the *Midge system* in the port of London had materially to do with the depression that had prevailed in the East of London for so long a time. Some time ago he had been waited upon by a deputation on the subject, and the matter was put before him in such a manner that he was at once enlisted in their service, and immediately put the case before the Board of Trade. The result was a promise to extend the system to every port in the Kingdom, and from inquiries he had made in the House of Commons



he was enabled to inform them that arrangements for extending the system to Liverpool had been completed, and he believed would be with all other towns in the course of a few days. (Cheers.) Several gentlemen having addressed the meeting, a vote of thanks was passed to the Chairman, and the proceedings terminated.

"Midge" is the name of the steamer engaged by the Board of Trade for the purpose of boarding all vessels entering the port of London—hence *Midge system*. Who is it that so kindly gives the sailor a railway ticket and ten shillings as the ship is entering the port of London, and starts him off, with his wages carefully sent on before him, to any part of the country he may wish to go? How and by what means did these very kind friends arrive at a correct conclusion as to how much the sailor had to receive before the account was rendered to him? and how did he manage to sign off the ship's articles in London if he was sent away as he was coming up the river? It seems a mystery until we read what Mr. Churchwarden Coombe says, then it is plain. The sailor is being delivered out of the hands of the slop clothiers and low boarding-house keepers of the East End. Well, I will not put to paper my opinion of that lot, it might be considered harsh and uncharitable; but let anyone that reads this paper apply every epithet in the English language, and in any foreign language that he understands, that signifies the antithesis of everything that is right, just, honest, and true in the dealings of these men with the sailor, he may then have some idea of my meaning, and some idea of how the sailor has been treated by them. Clothes have been sold to the sailor at five hundred per cent. profit; when he has been half drunk with a glass of grog and the excitement of coming on shore, he has been literally pulled into one of these shops, and there given more brandy and gin, things forced upon him that he has no need of, at more than treble their value, and all because he had just come on shore,

with his wages to receive in a few days. The low boarding-house keeper has welcomed the sailor from his voyage, enticed him by his own exertions, or through his runner to his house, or more properly speaking, den—I have seen specimens of these establishments in St. George's-in-the-East, there is no other name that fits them so well—gives him bad spirits until he is stupified, and then keeps him so with the assistance of a low woman,—until he is paid off, when the sailor finds that these two harpies claim nearly if not all the balance of wages due to him. I have known men robbed in this manner of £20, £30, £40, in less than a week. Some years ago a sailor under my command was paid off on a certain day with £40. The next morning he came down to the ship holding an empty flour barrel with both ends out round his half naked body. He had been robbed of even his clothes that he had taken off before going to bed, and although he knew who had robbed him, and the house in which it was done, he would not allow me to take proceedings against the parties; all I could get out of him was, that "Sal had been a good girl to him in former years, and would not have done it unless she had been put up to it." He went to sea again immediately; he was not five days on shore. It is a happy thing for the sailor if he is being delivered out of the hands of these people.

Now let me ask, has not the sailor as much right as any of her Majesty's subjects to spend his money where and when he pleases, and on whom he pleases? Does the British sailor exist only for the benefit of the slop clothier or tradesman and low boarding-house keeper of the East End? These two have played into each other's hands for years past, to the injury of the sailor in time and for eternity. They have plunged him into disease and death by drunkenness and vice in this world, and ruined his immortal soul for ages in the next by making that soul as spiritually dead as his body to a healthful life. I am rejoiced to hear that such a state of

things is at least coming to an end. If the East End of London cannot exist but on the ruin of the British sailor, body and soul; if there can be no revival of trade there unless he is again delivered over to their tender mercies, let it remain as it is, or let the East End move out into another location, and take Mr. Churchwarden Coombe as their prophet, Mr. Dellow as their chief priest, and Mr. Ritchie, M.P., as their spokesman.

But is the *Midge System* a cause, or is it only a result? Is it not a result of the march of education among sailors? Is it not the result of a change for the better among sailors? Is it not the result of a desire for a better and purer life among sailors? Lastly, but not the least, is it not the result of a change of heart among sailors? There are hundreds of truly pious sailors, where formerly you might have counted them by units. If it is the result of these causes—and who shall doubt it?—Mr. Churchwarden Coombe, and you Mr. Ritchie, M.P., who are so sensibly affected by the distress of the slop clothier and low boarding-house keeper of the East End, and would bind the sailor hard and fast, and give him again over to the tender mercies of these people, you may depend upon it you cannot stop the movement. Let the sailor once understand that he can get cheaper and better clothes anywhere than at the East End, and your East End slop seller may shut his shop. Let him know that there are places where he can lodge and be fed as a man and a Christian, and your low lodging-house keeper will be a thing of the past. Let the sailor only become educated, as he will be at the end of the next twenty years, and your slop clothier and low lodging-house keeper will have ceased to exist. They have already existed too long and will cease to exist, as all noisome and noxious things should and must. And all men who wish well to the British sailor, and are trying to do him good and put him on the right road, will say, thank God two great evils are done away.



That any body of men in England can hold a meeting and propound this astounding doctrine is something wonderful. "That prosperity cannot return to the East End of London, unless the tradesmen, slop clothier, and low boarding-house keepers have the first and last pull at the sailor's wages," is something so astounding, that unless I saw it in print, I would not believe it; and that a member of Parliament can be found to sympathise with them is still more astonishing. This movement will increase, more sailors are getting married than formerly, they send their wages to their wives and families, for which every facility is given by the Board of Trade. Many hundreds are saving men, and when a man has a few pounds in a savings' bank, he is always trying to add to it. I am sorry to find there is a body of men in England that would, if they could, and had the power, thrust him backwards in his march towards improvement.

Since writing this paper, the system has been extended to all seaport towns in the United Kingdom. Much good may it do them. If the sailor is wise he will begin by putting some of his money away every year in a Government savings bank as a provision for his old age. There is no man earning a regular wage but if he begin saving as soon as he commences to earn can have a sufficient sum laid by to keep him when past work. It will be worth while to enquire if the extension of the system has brought back prosperity to the East End.

HENRY FAITHFULL.

## ROYAL ALFRED AGED MERCHANT SEAMEN'S INSTITUTION.

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ON Monday, May 10th, the Thirteenth Annual Meeting of this Institution was held at the Mansion House. The Lord Mayor's official duties precluded his being present, and J. KEMP WELCH, Esq., was unanimously voted to the chair.

The Annual Report, read by Captain TRIBE, stated the Committee wished they were able to give a more prosperous account of the present position of the Society in a financial point of view, at the same time they have cause to be very thankful that God has blessed their endeavours in keeping the good ship afloat during the most trying period that England has experienced for very many years ; the depression in the mercantile and commercial world generally, and the shipping in particular, being too well known to require any comment here. The Committee have worked hard and anxiously to meet the requirements of the time by economising every expense in every department, and by reducing the number of candidates to be admitted at each election ; and a most painful duty was this last to perform, at a time, too, when poverty and the greatest distress were prevailing in the midst of those whose occupation was chiefly among the shipping, and who were connected with maritime pursuits. Many of those who were hopefully looking forward to Belvedere, only to be disappointed, had to fly for refuge to the workhouse to escape starvation. To give an idea of the effects these last two or three years of scarcity have had upon this charity, it may be mentioned that for the year 1876 the donations and subscriptions amounted to £4,442 ; for 1879 to £3,298. In 1876 there were 112 seamen in the house, and 135 receiving the out-pension. In 1879, 93 in

the house, and 124 out-pensioners; yet the Committee, during this time, were using every exertion to obtain help, and contributing largely out of their own means in aid of the funds of the Institution; but while the aged and worn-out British seamen were in such actual want, thousands and thousands of pounds poured out from large-hearted and generous England to relieve foreign distress and home domestic accidents, as if really our aged seamen at home had no claim for sympathy. Well and rightly did the First Lord of the Admiralty describe in a recent speech the claim seamen have upon their fellow countrymen. He said, "that the seamen of this country had a peculiar claim upon those who lived at home at ease, as well as upon those who derived profit from their labours, and indeed it was difficult to say who did not profit by them. They were largely dependent upon the seamen's skill, energy, and endurance for the supply of the food which was necessary to the existence of the people of this country, and for the maintenance of the character, position, and influence of England throughout the world. The commerce and trade of our country would disappear if we had not seamen who were capable of enduring the hardships which were attached to a life at sea, and who were possessed of the enterprise, the energy, and the resolve which had fortunately been the characteristics of the British seaman throughout the history of this country. The life of the seaman involved exposures, dangers, and risks which persons in a similar position in life on shore were not exposed to. The workman on shore ceased to work in bad weather, but it was in the storm and the tempest that the seaman was more particularly exposed, and the risks to life and health which he had to encounter far exceeded those to which people on shore were subject. The seaman had, therefore, a claim upon society." It is on behalf of and for this class of men who have undergone all said here, grown old and infirm, and no longer able to earn his bread, that the Insti-



tution was founded, and a home and a refuge provided him as a calm retreat to spend the remainder of his days, after all the storms and tempests endured in the voyage of life. Surely the British public will not deny him this. It has been proved "that a true sailor is rarely seen to beg; the many hardships which he has suffered in following his calling have made him familiar with self-denial, and in his trouble *he has to be sought out.*" Do not these men all the more deserve our sympathy and support, when, by reason of their infirmities, they are cast adrift, friendless and uncared for in this land of charity, where almshouses and asylums are provided and endowed for every other class of men and trades, the sailor almost alone excepted.

The Committee regret to report that they have been unexpectedly called upon by the sanitary inspectors to make large and expensive alterations, and as the building at Belvedere is sadly in want of repair, they have deemed it advisable, on the score of economy as well as the comfort of the inmates, to carry out both works at the same time at a cost of about £1,000.

The Committee earnestly appeal for help, and entreat all not to let our aged seamen, *after toiling hard for us*, go to the workhouse, for it is a sorry place at the best, and the sailor's horror.

J. KEMP WELCH, Esq., chairman, referred to the unfortunate wave of adversity which they had experienced during the last two years. This had told very much upon the Institution, which had suffered in a larger proportion thereby than any other society with which he was connected. When adversity came it was, no doubt, the duty of all to think what was the first thing they should deprive themselves of, but such an institution as theirs ought not so soon to feel the pinch. They had not large accumulated funds upon which they could draw in these times of depression and anxiety. It was therefore to annual subscriptions that they had to

look for support, and there was not one in the room who did not deeply regret that the Committee had been obliged to shut the door against so many applicants whose claims they had been unable, for want of funds, to entertain last year. He felt that it was only necessary to draw attention to this, and to make the fact as public as possible, for funds to come in. (Cheers.) There were many ways in which money might be raised for them, and especially would their funds be increased if they could only prevail upon the captains of ships to have collecting boxes on board. The number of persons travelling the ocean was something wonderful. Nothing was so conducive to contemplation and thought as a long voyage, and nothing would be more favourable for subscriptions to a society for the benefit of aged seamen than when they had the sailor before them, and saw him amid the perils of the deep and the storms of the ocean. It had been his privilege to cross the Atlantic in one of the Cunard steamers, and the captain had made it a practice every voyage to have a collection among the passengers for the Sailors' Orphanage at Liverpool, by which means this gentleman was enabled to contribute something like £200 a-year to the institution from his own ship. Considering the number of passenger ships there were upon the seas, they could very well understand if the practice was generally followed what it would mean, and that the vast amount of good now being done might thereby be very largely increased. They had to provide for some fine old fellows who had done in their time their work faithfully and well, but who in their old age were unable to support themselves, and who but for the benevolence of the public must find their way to the workhouse. Do not let them suffer. Do not let them go to the workhouse, of which they had the greatest possible abhorrence. Do not let it be said that all sailors were improvident and should suffer for their improvidence. They did not know the temptations of the sailors, and it was unfair to judge of them by their

customs or improvidence. Think only of what they did—think what the country would do without them. (Cheers.)

Admiral Sir CLAUDE BUCKLE remarked upon the exceedingly clear and succinct character of the Report. Owing to the depression of the times their Institution had suffered considerably, and, in fact, it was second to none in its fallings off. They had already suffered to the extent of nearly £1,000, and they might call it £2,000, for £1,000 would now be required to repair matters connected with the sanitary arrangements of the Institution. Thus it happened that instead of being able to elect the ten in-pensioners and twenty out-pensioners, their funds were so low that they were only able to take five in-pensioners and ten out-pensioners. This was a very sad and deplorable state of things, particularly when they remembered that the maritime population of the country numbered 350,000, and yet they were unable to take in more pensioners than these few. They had all kinds of societies for the improvement of men and officers both in general and spiritual knowledge; sailors were better treated than they formerly were in the matter of clothing and provisions, but still their wages did not increase in proportion, and the consequence was that they were unable to lay by anything for their old age. In the Navy good pensions were given, but this was not the case in the Mercantile Marine, however good or however long their service might be. He trusted that better times were in store for these sailors. Seeing the services which such men rendered, they ought not to grudge providing for them in their old age. (Hear, hear.) What would they do without them? A great many foreigners—Greeks, Italians, and others—were employed in the maritime service, and hence it was that they heard of so many murders and so many mutinies, which would not occur if instead their vessels were manned solely by British seamen. They ought to be able to get their seamen as boys, and so train them up to the service by a system of apprenticeship.



Then they would not hear of so many ships going ashore or being lost. (Cheers.)

The Rev. JOHN RUSSELL STOCK: Sailors were a class of men of great strength, great energy, and great ability—they were perfectly fearless, and to see them amid storm or danger and witness the manner in which they addressed themselves to the exigencies of the case excited their feelings in the highest degree. Considering what they had to go through—their temptations and privations, and the perils which they had to face—it was nothing but right that they who sat at home at ease should do something to provide for the seaman when old age came upon him. (Hear, hear.)

Captain WILLIAM WOOLCOTT said he had always felt a great deal of sympathy for the old sailor, who, although almost as helpless as a child, did not, he was sorry to say, excite so much sympathy as a rule as the orphan. Many people ran away with the idea that the sailor was very improvident. They say that he does not save as he ought to do in his younger days; but his experience of the men was that they had to be very careful indeed to make both ends meet. He was at the St. Katherine's Docks the other day, and inquired the average wage of able-bodied seamen, and he was told £2 10 per month, which in prosperous times might be increased to £3. In many cases the sailor was a married man, and his wife's allowance would amount to 9s. 6d. per week, which would leave Jack but 12s. for his own comforts—that was to purchase his clothing, his oilskins, and his tobacco, of which he was sure that no one would readily deprive him. (Cheers.) A man could not save very much out of that. In the Navy the seaman had his pension to fall back upon. He should very much like to see a return to the old apprenticeship system and 1s. per month put by. Then would some sure provision be made for the old sailor. What became of the money arising from the sale of the effects of deceased sailors? Also he should like to know what became

of the unclaimed wages? This he was told amounted to something like £7,000 per annum; and surely an institution like theirs ought to derive some benefit from the money. He sincerely hoped to see things improved, and old sailors better cared for than they now were. (Cheers.)

Captain JOHN WILLIAMS stated that to him the Institution had been as it were a pet child, and therefore they might well be assured that he was warmly interested in it. He only wished that many more of their friends would go down to Belvedere and see the fine old men they had there. Nearly all their inmates had served their seven years' apprenticeship to the sea at the outset. In the asylum their comforts and wants were attended to, while their spiritual welfare was not neglected, for the Committee felt that if they wished success to the Institution they must acknowledge the Giver of all good in everything. As members of the Committee it had been to them a matter of the deepest concern that the number of pensioners should be so terribly curtailed. They had, as the meeting knew, only 120 out-pensioners in the Institution, and but 93 inmates, whereas they had room for a great many more if they could only get the funds. They had the sympathy of everyone, he was sure.

LORD CHARLES BERESFORD, R.N., said it was impossible to think of an institution more deserving of public sympathy and support than this, which had for its object the providing of a comfortable home for the aged and infirm seaman, when destitute of friends and relations. A seaman's life, as they all knew, was an extremely hard one. Their pay was not only very small, but there was no pension, which they in the Royal Navy, after thirty-five years' service, were able to look forward to. For the infirm merchant seaman there was absolutely nothing but the workhouse, although he ran all risks, and shared all the dangers and perils which were sure to be the lot of all "who went down to the sea in ships, and

whose business was on great waters." He was glad to see that the spiritual comforts of the sailors were also attended to, than which nothing could be better. The seaman always had his life in his hands, for were they not continually hearing of accidents on the seas?

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## CORRESPONDENCE.

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### THE CASE OF THE "ALNWICK CASTLE."

*To the Secretary of the Shipmasters' Society, London.*

26th May, 1880.

DEAR SIR,—The Board of Trade Inquiry into "the material damage and subsequent stranding" of my steamer *Alnwick Castle* being now concluded, I beg you to convey my thanks to your Committee for the unhesitating and very kindly prompt manner in which they agreed to watch the case in my behalf. The Society was well and worthily represented by Mr. King, of the firm of Messrs. Lowless, Nelson & Co., and I feel it is to his ability, shrewdness, and care that I am mainly indebted for the very satisfactory result.

I greatly regret that it should be my misfortune to be the means of encroaching on the very limited funds of the Society, and with all respect would suggest that it is a question well worthy the consideration of the Society, the advisability of pressing on the Board of Trade the simple justice of allowing costs to the master, at least in cases where he is acquitted of all blame. As you so well know, it is impossible to say how the case may turn, or what charges, even on your own evidence, may be brought against a man, so it is never safe to be unrepresented.



Asking you to hand in the enclosed cheque (£5) as a small donation to the Society, and thanking you for the trouble you have taken in the case,

I remain, dear Sir,

Yours faithfully,

GARDINER GUION FOX..

FINDING OF THE COURT IN THE "ALNWICK CASTLE"  
INQUIRY.

The following questions were submitted to the Court :—

" 1st. What was the cause of the fire which broke out on board the *Alnwick Castle* at Hamburg, on the 11th April, 1880. 2nd. Whether the cargo shipped on board the said vessel was a safe and proper one. 3rd. Whether the cargo was properly stowed, and whether the cases containing the friction tubes and amorces were properly packed and stowed ; and, 4th, Whether every possible effort was made immediately on the discovery of the fire to extinguish it.

" Mr. King, on behalf of Captain Fox, addressed the Court. He reviewed the conduct of the master of the *Alnwick Castle* from the commencement of the voyage at Cardiff until the time of the accident, and also went fully into the evidence that had been adduced. He claimed that all that was possible for an officer to do, especially in the case of a most particular voyage like that which the *Alnwick Castle* had before her, was done by Captain Fox, both as to the security and safety of the vessel and his crew. So soon as he found what was to be the nature of his cargo, he laid down the most stringent rules as to ventilation, the prohibition of tobacco smoking, and other matters. A copy of a Board of Trade Instructions was handed to each of the crew, and also entered in the log, so as to ensure a thorough system of ventilation. Twice every day the temperature of the holds was taken, besides additional ventilators of an approved kind having been fixed. He (Mr. King) very sincerely hoped.

that the Court, in giving their judgment, would be able to place on record the fact that Captain Fox had thoroughly and efficiently done his duty. They must know that, to be mixed up with such an affair as a fire on board his ship, was a most unfortunate thing, and unless he was thoroughly exonerated, after a minute examination, the unpleasant circumstance might follow him throughout his professional career.

“ Mr. Ryott then briefly addressed the Court on behalf of the owners, and stated that they courted the fullest and most minute inquiry.

“ The Court then retired, and, after an absence of upwards of an hour, returned at five minutes to two, when Alderman Spence read the judgment. There was no evidence to satisfy the Court as to what actually caused the fire on board the *Alnwick Castle*, but the evidence pointed to the probability that it broke out in the after part of the 'tween-decks in the main hold, and amongst that portion of the cargo shipped at Hamburg. The Court was further satisfied that the cause of the fire did not originate from the coal cargo, nor was there any evidence to show that any explosion occurred either amongst the cargo or on board the vessel, and every precaution appeared to have been taken to prevent the risk of fire from naked lights or other causes. It appeared from a document before the Court, under the seal of the British Consul at Hamburg, that amongst other cargo shipped at Havre, there were cases of friction tubes and amorces, of which no notice was given to the captain or any one in charge, and the Court was of opinion that the stowage of such explosives amongst a general cargo was not safe and proper. The stevedore, his men, and a large portion of the crew having abandoned the vessel immediately on the discovery of the fire, every possible effort was made by those remaining on board to extinguish the fire. The Court wished to express its opinion

that the master used every proper care and forethought in order to prevent danger from fire.”

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## COAL CARGOES.

*To the Editor of “The British Merchant Service Journal.”*

British Shipmasters’ Association, Hull,  
20th May, 1880.

To the Secretary, Shipmasters’ Society, London.

DEAR SIR,—This Association have recently forwarded, through Mr. Norwood, M.P., a Memorial on the Ventilation of Coal Cargoes, to the new President of the Board of Trade. I now enclose a copy of this Memorial for your Committee, feeling sure that they will render such aid as may be considered right and for the general good.

I am, dear Sir, &c.,

ZEBEDEE SCAPING, *Secretary.*

“TO THE RIGHT HONOURABLE JOS. CHAMBERLAIN, M.P.,  
PRESIDENT OF THE BOARD OF TRADE.

“The humble Memorial of the British Shipmasters’ Association of Hull.

“SHEWETH,

“1. That your Memorialists are an Association at Hull of 280 shipmasters and officers holding certificates of competency from the Board of Trade.

“2. That the members of the said Association are from time to time required to carry on board the vessels under their charge coal cargoes from the different coal ports in England and Wales, and as such members are not and do not profess to be acquainted with the properties of the various kinds of coal, which differ in quality in each port of shipment, they are not able to take the precautions necessary to avoid the danger arising to the vessel carrying the coal and to the crew on board such vessel.



“ 3. That a large number of vessels and persons have been injured, and a considerable number of lives have been lost in consequence of explosions which have occurred in coal-laden vessels for want of sufficient ventilation, and the certificates of some of the members of this Association have been suspended by the Board of Trade in consequence of the default on the part of such members in not providing sufficient means of ventilation.

“ 4. That such default has arisen mostly, if not invariably, from the ignorance of such members as to what is necessary in order to sufficiently ventilate the holds of the vessels under their command.

“ 5. That the Board of Trade have not issued any regulations defining the mode of ventilation, but have left the mode of ventilation to the discretion of shipowners.

“ 6. That your Memorialists consider that it is not expedient to leave so important a matter as the ventilation of coal-laden vessels to shipowners and shipmasters, the latter of whom frequently have no power without the consent and authority of the owners of vessels to provide ventilators, but that the subject of ventilation should be under Statutory regulation, or should be under the control of officers to be appointed by the Board of Trade, so that a known and defined system of ventilation should be required, and the danger of explosion thereby lessened.

“ 7. That your Memorialists further consider that foremen coal trimmers should be licensed, and that they should supply shipmasters with certificates to the effect that the cargoes laden on board their vessels are properly trimmed and ventilated.

“ 8. And your Memorialists further humbly pray that no shipmasters or officers of vessels be punished for imperfect or defective ventilation of coal cargoes by Courts of Inquiry, until such regulations have been issued, or there has been legislation upon the subject.

‘ Your Memorialists therefore humbly pray that you will be pleased to issue rules and regulations as to the mode of ventilating coal-laden vessels, and will appoint a sufficient number of officers at each coal shipping port with directions as to the carrying out of such rules and regulations, or will submit to Parliament a Bill making provisions for the due ventilation of such vessels.

“ And your Memorialists will ever pray, &c.”

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## THE SHIPMASTERS' SOCIETY.

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### SPECIAL RESOLUTION.

“ WITH the view to raise the standard of papers which may be proposed should be read and discussed at the rooms of the Shipmasters' Society, it is hereby resolved that all such papers shall be submitted to and approved of by the Committee of Management, on or before the third Thursday of the month.”

N.B.—The meetings of the Society are held at 3 p.m. on the last Thursday of each month.

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PAGE 227, Par. 2, May No.—We are requested to say that Captain Froud has been incorrectly reported, as he does not at all hold to the theory that the compass is affected by Fog.—EDITOR.

OFFICIAL INQUIRIES WHERE  
Reported since

| Ship.                       | Casualty.   | Loss of Life. | Inquiry.  |
|-----------------------------|---|---------------|---|
| <i>Newbiggin</i> , s.s. ... | Lost at Atherfield Point, Isle of Wight, 3rd April, 1880. | ...           | Newcastle :<br>J.P.,<br>29th April, 1880.         |
| <i>Ivanhoe</i> ...          | Lost on the Coast of Tasmania, 17th August, 1879.         | ...           | Launceston :<br>Magistrate,<br>28th August, 1879. |

INQUIRY INTO THE LOSS OF H.M.S.  
“ATALANTA.”

THE constitution of the Committee appointed to inquire into the loss of H.M.S. *Atalanta* would imply that the Admiralty, ergo naval officers, are of opinion that the investigation will be conducted in a more thorough manner by being kept in the hands of naval officers than would be the case were the Court to consist of gentlemen selected from both the Royal Navy and the sister service, the Mercantile Marine.

After the discussion in Parliament, and in order to satisfy the public, it was hardly possible to make the inquiry a Departmental one, and accordingly a civil element was introduced, and Mr. H. C. Rothery, the Wreck Commissioner, and Mr. Waymouth, of Lloyd's, were included.

Unfortunately, however, for the public interest, Mr. Waymouth, though a well-known authority at Lloyd's upon questions of construction and stability of vessels, is not a sailor, hence the evidence bearing upon practical seamanship will be confined to officers of the Royal Navy.



## CERTIFICATES HAVE BEEN DEALT WITH.

1st May, 1880.

| Nautical Assessors.  | Finding of Court.                    | Decision  |
|----------------------|--------------------------------------|---|
| Forster.<br>Beazley. | Vessel lost by negligent navigation. | Master's certificate suspended for 9 months. Lower grade granted. |
| Gilmore.             | Gross errors in navigation.          | Master's certificate cancelled.                                   |

Whether the Court in this instance will benefit by the introduction of the legal element remains to be seen, but in our opinion the introduction of a legal functionary, tends rather to embarrass than to assist the action of those upon whom should devolve the duty of ascertaining the cause of the disaster.

It is somewhat surprising that no officer has been selected from the Mercantile Marine, for the hard-earned practical experience acquired in the Atlantic, in vessels more difficult to handle than H.M.S. *Atalanta*, would have been a valuable addition.

Had the *Atalanta* belonged to the Merchant Service, she would have been manned by a crew numbering at most but a tenth, all told, of the number of brave sailors the country now mourns, and the enquiry into the disaster would have been conducted by Nautical Assessors selected from both services.

It is the more surprising that no master mariner has been nominated to the Committee, for we should have thought that in the face of the agitation which is going on in certain quarters by which it is sought to increase the number of

Royal Naval Assessors appointed under the provisions of the Merchant Shipping Casualties Investigations Act, it would have been considered desirable to secure the assistance of an officer from the Merchant Service.

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## LIGHTHOUSE CHARACTERISTICS.

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THE following extracts from a Parliamentary paper of Correspondence upon Lighthouse Characteristics will be of interest to our readers, many of whom will recollect that Sir Wm. Thompson read a paper at the rooms of the Shipmasters' Society, proposing that each lighthouse should display a distinctive light by which it may be recognized and not confounded with any other. In other words, to make every lighthouse signal a particular letter, or a combination of letters of the Morse Telegraphic Code, which for signalling purposes is described as long and short flashes :—

“ REPORT relative to SIR WILLIAM THOMSON'S proposed Changes on the Characteristics of Lighthouses, by D. and T. STEVENSON, Engineers to the Board of Northern Lighthouses.

“ The proposals made by Sir William Thomson, are three-fold :—

“ 1. ‘ The application of a group of dot-dash eclipses to every fixed light.’

“ 2. ‘ A great quickening of nearly all revolving lights,’ and

“ 3. ‘ The abolition of colour as a distinction of lighthouse lights except for showing dangers, and channels and ports, by red and white and green sectors.’

“ We shall now proceed to consider these different proposals:—

“ The essential principle of the simple lighthouse characteristics at present in use is that of *optical* distinction, and strongly marked, and therefore obvious differences in the periods of light and darkness, while the system now proposed consists of intricate and minutely different *numerical* distinctions in *number* and *order* of eclipses crowded into very short periods. At present, the mariner, when falling in with a light, at once recognises it as fixed or revolving, or revolving red and white, in periods such as once a minute or once in half a minute, or else flashing, which, occurring in periods of 5 or 12 seconds, produces an effect that can never be mistaken for a revolving light. The intermittent light, again showing for a certain definite time a steady fixed light, which is *instantaneously* succeeded by a dark period, also of definite length, is readily distinguishable from either the revolving or flashing light by the much longer durations of light and by sudden occultations instead of gradual waxings and wanings. More recently the group-flashing lights of Mr. Wigham and Dr. Hopkinson form another kind of distinction, which exhibit a group of two or more flashes, appearing at short intervals after each other, which are then succeeded by a longer interval of darkness. In order to recognise any of these lights, if separated from each other by sufficient lengths of coast, no appeal to a watch or other measurer of time is needed, because the characteristics are either purely optical, or else the periods are so widely different as to be at once distinguishable. The difference, for example, between lights which appear once in a minute, once in half a minute, and once in five seconds, is so great as to be at once apparent without referring to a watch to ascertain the elapsed times. And the number of distinctions which can be easily secured by combinations of the present modes has not been nearly exhausted. Sir Richard Collinson has shown (Minutes of



Proceedings of the Institution of Civil Engineers, Vol. 57) that by means of them very many distinctions can be produced, all of which depend either on appearance or on similar broadly marked differences of time.

“ The origin of such schemes as that of Professor Babbage and Sir William Thomson is an erroneous idea regarding facts which are well established. There is a current and widely diffused, though wholly unfounded notion, that the great cause of shipwrecks is the mistaking of one light for another by the mariner. Mr. Alan Stevenson, in his Report of 1851, already referred to, showed by statistics of the Scotch coasts, that for the four years immediately preceding that report the real cause of shipwrecks at night was not the mistaking of one light for another, but rather the non-visibility of the lights. Out of 203 shipwrecks occurring in these four years 133 occurred by night, and in only *two* of these was it ever alleged that the appearance of the light had not been recognised, and in only one of these two cases were the lights specified that were alleged to have been mistaken for each other, viz., the *revolving* light of Inchkeith for the *fixed* light of the Isle of May. It is hardly possible to conceive two distinctions more broadly marked than these.

“ It seems unnecessary to go over the ground which has been already traversed in Mr. Alan Stevenson’s Report, in which he clearly points out that *the grand requisite of all sea lights is penetrative power*, and not a greater variety of characteristics.

“ It must not, however, be supposed that in making these remarks we believe that the present distinctions are incapable of improvement or extension. Nor yet do we differ from Sir William Thomson in thinking that it is very desirable to compress the whole features of distinction within the smallest space of time, provided that space is consistent with clearness of recognition and simplicity of nomenclature. This practice has indeed been kept in view by the Northern Lights Board

in the new lights which have been erected during the last quarter of a century.

“ We are further of opinion that no possible objection can be urged to the establishment of lights such as the occulting one erected by Sir William Thomson at Belfast Lough, of which we have already expressed our approval, and we have also expressed our concurrence in the exhibition of a similar light at Garvel Point, on the Clyde. We, however, approved of these two lights on the ground that the sailor did not require to note the number of dots and dashes or the order in which they succeeded each other, but as mere scintillating lights placed in situations which were surrounded by the fixed lights of vessels at anchor and also on the adjoining shores, they formed by their occultations valuable distinctions to mark turning points in the navigable channels. But to introduce such lights generally in substitution of the existing ones seems to us certainly to be dangerous.

“ The conclusion, therefore, which to us seems warrantable from these considerations, is that lights should be distinguished either by purely *optical* characteristics, *i.e.*, by appearances at once appreciable by the eye, or else by broadly marked *variations* of periods, and not by minute differences exhibited in rapid succession indicative of certain letters of the alphabet which could only be read by people trained to such a system of telegraphy, or the modification of this system now proposed by Sir William Thomson. We are further of opinion that even although such a system were not dangerous, there is no need whatever for abandoning the present modes of distinction.

“ Although, then, we strongly object to the indiscriminate alteration of fixed lights to the dot-and-dash system, we have to state, as already reported by us on 4th November, 1875, that in some cases fixed lights might, with decided advantage to the mariner, be changed to intermittent. Our reasons for holding this opinion are as follows :—

“There can be no doubt that the sailor would be benefited by increased intensity of all lights. Now, the fixed light has undoubtedly, from the nature of its requirements, a very low penetrative power, and viewed purely as an abstract question, it may be fairly enough urged that all fixed lights should be altered to revolving or flashing, as their powers would be made very much greater by such a change. But to alter fixed lights to revolving would not only be a very costly, but, in our opinion, a very unnecessary change, as there are many localities where a fixed light is the most useful distinction that can be employed.

“The intermittent light has the same disadvantage of low penetrative power as the fixed light, but this can be easily remedied by employing a form of apparatus published in 1872 and first tried temporarily in 1879 at Barrahead in the Hebrides, where it answered the purpose so effectively that it is now being introduced at the intermittent light of Mull of Galloway on a larger scale, and on a still more perfect plan by the adoption of the *differential refractor*. The apparatus, when made of the form tried at Barrahead, is of the simplest description, consisting of certain straight condensing prisms, which are made to revolve outside of any existing fixed light apparatus, and which can be arranged so as to give equal or unequal periods of light. By the addition of these prisms to the existing apparatus of any fixed light, the character can be changed from fixed to intermittent, *and the intensity will be exalted in proportion as the dark period is increased, while the light periods are all of precisely equal intensity and of strictly definite duration.*

“As regards the periods that may be adopted for these intermittent lights, we may mention that in 1870 we tried, in the gas harbour light of Ardrossan, a flash once in every second, but the physiological effect was found unsatisfactory by the sailors using the harbour, and we had in consequence to alter the period to once in every two seconds which is its



present period. It is obvious that in this case the waxing and waning of the flash, due to the raising and lowering of the gas flame, reduced the duration of the light period, and this was doubtless the reason why the first Ardrossan light was found to be unsatisfactory, for although the period of the flashes was once a second, the duration of the light continued only for a fraction of a second, and that fraction would vary according to the state of the atmosphere and the distance of the observer. But this objection does not apply to the condensing intermittent light, in which there is no diminution of the light period by waxing and waning, for, if visible at all, it must be so uninterruptedly during one whole second, which can be followed by any definite period of darkness. From trials we have made with this kind of apparatus we are disposed to expect that a period of light, even of one second of duration, may be found practically available.

“The proposal to accelerate the speed of revolving and intermittent lights, in consequence of the increased speed of steam navigation, was, we believe, first proposed by us in our Report to the Commissioners, of date 22nd October, 1870. In that report we proposed that the lights which had been erected early in the century should, in the first instance, be altered. That remit is still being carried out, and six of these lights have already been accelerated.

“The use of colour as a distinction is doubtless attended with considerable difficulty, as well as with some disadvantages. Besides the existence in a few individuals of the physical defect known as colour blindness, it is well known that in foggy states of the atmosphere white lights acquire a reddish hue so as to simulate the effect produced by red shades. There is also a practical difficulty in the case of revolving red and white lights in so apportioning the rays as to produce equality of intensity at all distances and in all states of the weather. From these causes it is certainly unadvisable to place a white revolving light and a red and

white revolving light near each other, if the white has twice as long a period as the red and white, for in the event of the red beam not being visible, the two lights will then become of the same character. In all the revolving red and white lights in Scotland, the apparatus consists of separate reflectors, or holop holes, and it is impossible with such apparatus exactly to equalise the red and white beams, unless by masking a portion of one of the reflectors. The result has, however, nevertheless been very nearly attained, as, for example, in the case of the Bell Rock, where, from observations made at Arbroath, 11 miles off, from June, 1876, to January, 1880, being in all 1,096 observations, there was only one occasion at the times of observation in which the white was seen without the red. If, instead of separate reflectors, there is only one dioptric apparatus with one central burner, exact initial equalisation can be effected, but at great distances from the light, and in certain states of the atmosphere there seems reason to doubt whether the equality will be maintained.

“ We see no reason, however, to discard the employment of colour, if sufficient care be taken to separate red and white revolving lights from white revolving lights, or at least to give them such periods as will prevent identity of characteristic in the event of only one of the beams of light being visible.

“ As regards the allegation that ‘ distinction by colour alone ’ may be mistaken for ships’ side-lights, we have to state that with the exception of the green light of Lamlash, where out of the large number of captains of steamers navigating the Clyde there was only one who states he mistook that light for the starboard green light of a sailing ship.

“ We find that the Royal Commission on Lighthouses, in 1861, gave a strong opinion on the subject of colour distinctions, which we think it proper to adduce, viz., ‘ red rays penetrate peculiarly well, and, as your Commissioners have

witnessed, furnish an admirable and most useful means of distinction ; one which, in their opinion, is not enough resorted to.'

" Having now considered the different proposals which have been made, we shall recapitulate the conclusions at which we have arrived.

- " 1. That the system of altering all fixed lights to the dot-and-dash, or Morse alphabet system, would, from the minute differences in characteristics, lead not only to perplexity in the mind of the sailor, but we fear to disastrous results ; and that such a mode of distinction, though it were free from danger, is uncalled for, because unnecessary.
- " 2. That the acceleration of some of the existing revolving lights should be proceeded with.
- " 3. That some of the present fixed lights may with advantage to the mariner be altered to intermittent, on the condensing system now being introduced, which will largely increase their penetrative power.
- " 4. That coloured lights may, in certain circumstances, be safely continued as a means of distinction.

" D. & T. STEVENSON.

" Edinburgh, 26th January, 1880."

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" TRINITY HOUSE TO BOARD OF TRADE.

" Trinity House, London, E.C.

" 10th March, 1880.

Sir,—I am directed to acknowledge the receipt of your letter, dated 17th ultimo, enclosing a communication from the Commissioners of Northern Lighthouses, covering a report from Messrs. Stevenson on recent suggestions respecting the future character of lights, and requesting to be furnished with any observations the Elder Brethren may desire to offer thereon.



“ In reply, I am to state that having regard to the manner and spirit in which those suggestions were promulgated, the Elder Brethren have no ‘ desire ’ whatever to discuss them, and deem it the less necessary to do so, because the main proposal was gone into somewhat exhaustively in 1873, and because of the able criticism to which it has again been subjected by Messrs. Stevenson in the report which now, by the courtesy of the Board of Trade, is before the Corporation. Nevertheless, since the Trinity House cannot but be aware from the reservation of the Board of Trade as to sanctioning the expense of applying the occulting method to certain fixed lights, that questions of distinctiveness are at the moment attracting the attention of your Board, the Elder Brethren direct me to submit the following observations, in which an endeavour has been made to explain the principles upon which their present practice is grounded.

“ A reference to the Admiralty list of lights will show the distinctions which are in use, all of them, more easily comprehended, it is believed, than would be the Morse alphabet, and sufficient, it is thought, to provide for the general coast lights ; but with the increase of steam navigation, and the improvement in ships’ anchor lights, the Elder Brethren have for some time felt that the distinction of fixed lights by occultation might with advantage be developed.

“ The introduction of the converse of this method by the group *flash*, which consists of a short series of quick flashes, followed by an unmistakably longer period of darkness, has taken precedence of the group of quick obscurations with unmistakably longer periods of light ; but it is now proposed that attention should be given to the latter, as the simplest form of new distinction ; for it seems to them that unless there were any intention of making *all* lights depend for identification on the Morse alphabet, and consequently of insisting that every grade of maritime intelligence should be educated up to its comprehension, the necessity which will

continue for identifying many lights, such as those of a revolving character, by special characteristics, may be extended to the counting of two or three quickly following obscurations at the North Foreland or the Plymouth Breakwater, &c., every minute or half-minute; and that it may be taken to be an easier task to do this than having to determine (in addition) whether those occultations were short or long, and what number or letter of the alphabet they meant, the object being to continue to produce, as Messrs. Stevenson so justly say, broadly optical effects rather than needlessly subtle ones; and although under the present system the times of revolution and duration of flashes, &c., are given as the formal official record, in practice there is very rarely any need for the observer to consult the second-hand of his watch as to whether the flashes or grouped flashes were actually of so many seconds' duration; it being sufficient for him that they were flashes or a group of flashes, and presented at about the interval promised, if he looked at them for the first time or to which he was accustomed if familiar with the light. For example, when on a recent occasion a certain revolving apparatus was reported as irregular, and making a mean of 23·7 seconds instead of one of 30, there was, even then, no suggestion that such irregularity (regrettable as it was) caused any doubt as to which light was under observation, because its real distinction is an alternation of red and white, and not a punctuality of revolution; and it is believed that if each light of the whole cordon round the coast were taken *seriatim*, there is not one whose identification could not be secured by observations far rougher and less minute than would be required for determining the existence and the sequence of longs and shorts.

“A question has also been raised as to the expediency of increasing the speed of revolving lights. It is obvious that to throw out from the present distinctions the slower revolutions would be to diminish the numbers of those distinctions,

and it happens also that in the neighbourhood of the two Trinity House lights which are slower than one minute, there are others of quicker periods for shorter ranges available (to which also the slower lights when shown act by contrast as confirmation and assistance) so that the Elder Brethren do not at present see the need to alter them. The proposition to repeat the revolving lights in the Channel six times oftener, merely by increasing the speed of the machinery would have this effect, among others, that the Start, which now gives a seven-second flash would then give a flash of very little more than one ; and as this short beam would not appear again for nearly nine seconds, the sailor would really then have some difficulty in getting a bearing of it ; and it may be added that to present the flash of the Start of its present duration every 10 seconds, *by optical means*, would diminish its intensity to one-sixth of its present power ; with such inconvenience to the mariner as may be learned from an instructive “Memoire” recently published by M. Pettit, of the Hydrographic Department, at Brussels, who reports from his own long experience, and that of his colleagues when crossing the channel, how frequently the lights which were inferior in power failed.

“ There yet remains to this occasion some reference to the use of colour for lighthouse purposes. It is a method of distinction that in some conditions of atmosphere has its drawbacks, but when red is used, as at the Wolf and Flambro’, it is found to be practically very effective ; and in narrower waters where a somewhat inferior light is (with the adjunct of fog-signalling) sufficient, the use of green is by common testimony serviceable. When coloured lights are made flashing there is but little danger of confusion with port and starboard navigating lights, and an occultation of a simple character upon a coloured sector seems to the Elder Brethren to be preferable as a matter of distinction to the complexity of the Morse alphabet upon white.



“ Regard being had to the foregoing considerations, the Elder Brethren desire to renew their application for statutory sanction to the expense of the necessary apparatus for rendering the present fixed lights at the North Foreland and Plymouth breakwater occulting, and to call the attention of the Board of Trade to the fact that in the Estimates for the ensuing year they have included the expense of similar apparatus for the Mucking, Chapman, Lowestoft, Flatholm, and Avon Lighthouses.

“ I am, &c.,

(Signed) “ ROBIN ALLEN.

“ The Assistant-Secretary, Harbour Department,  
“ Board of Trade.”

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“ Irish Lights Office, Dublin,  
“ 23rd March, 1880.

“ Sir,—With reference to the letter of Sir W. Thomson’s, relating to his system of coast lighting, which appeared in the *Times* of the 2nd December last, and to the letter from the Elder Brethren of 10th March, and the Northern Lights Commissioners Engineers of the 2nd February, relating to the same subject, I have, in accordance with your instructions, carefully perused the same, and beg to inform you that the system advocated by Sir W. Thomson does not now appear for the first time, but has been brought under the notice of navigators several times during the past ten years; and that on the very numerous occasions on which it has been made the subject of discussion, and in which I have had the opportunity of participating, but one opinion appeared to be general as regards the adoption of the ‘Morse Alphabet,’ or group of dot-and-dash signals, namely, that it is impracticable, perfect as it may appear in theory, and for the following reasons :—

“ The system of lighting a coast should be made as simple

as possible, so that its comprehension should be brought within the lowest scope of intellect; and as, in legislating for navigators, all classes are included, from the vessels of the royal and foreign navies, with their highly-trained staff of signalmen, accustomed to nightly communication through the fleets by this same method, and the careful and observant officers of the mail and passenger steamers, to the uneducated seamen of the coasting trade, for whose safety every forethought should be observed.

“The system now advocated might be admissible as regards the former services, but is even then attended with several drawbacks, amongst which may be enumerated instances of fog, when the accurate observation is difficult, and the loss of one dot would at once alter the nature of a light, and instead of spelling R for ‘Rockabill,’ might represent H for ‘Howarth Bailey,’ and acting upon which, the vessel’s course would at once be altered, leading her to destruction.

“A system involving short demonstrations of the light, unless the group contains numerous flashes, also presents the disadvantages of being unable to take a bearing correctly, with celerity and certainty, owing to the short time it is visible; and it should be remembered that the whole system of lighting a coast develops its full advantages less in the case of vessels quietly coasting along in fine weather, than to ocean vessels making a landfall at night, after a long voyage across the Atlantic, and having been unable to take any observations for several days. Take, for instance, a vessel from America, uncertain as to her exact position, making Clare Island Light, white, fixed, visible 27 miles; she can at once identify it as that particular light, although there are numerous single white fixed lights on the coast, simply because, before even approaching within 10 miles of any danger, Black Rock Light, white, flashing every half-minute, will be observable to the northward, and the two Slyne.

Head Lights to the southward, one showing a fixed white light, the other a revolving light every two minutes, with alternate white and red rays. On no other part of the coast of Ireland, and possibly of the United Kingdom, will this combination of three lights be found, and each one is distinctive in itself; but I cannot say the same for three lights arranged under the Morse system, which would, under any circumstances, depend on their distinctive qualities to the number and relative position of long and short flashes, easily mistaken, or escaping detection.

“As regards navigators possessing a low grade of intelligence, and the impossibility of educating whom is at once apparent, I need but point out the case of the present Coningbeg light with its three quick flashes, occupying 23 seconds, followed by an interval of 37 seconds of darkness; and its immediate neighbour, the Tuskar, revolving every minute, with one red, followed by two white faces; a system which some people see fit to allege as the cause of the numerous wrecks which have taken place on the Wexford coast. Now, if it is difficult to distinguish between these two lights (which I do not for one instant admit), how much more so would it be between two lights on the Morse system.

“I have constantly pointed out the difficulty which the coasting trade have in distinguishing between revolving, intermittent, and flashing lights, and can easily understand the difficulty presented to this class of seamen unless a fixed light is placed between, or a red ray substituted for, or alternated with a white one, and I hold the same views with regard to Sir W. Thomson's system.

“*Secondly.*—As regards the proposition to quicken the rate of the existing revolving, intermittent, and flashing lights, I believe that it might be advisable in some cases to adopt it, with a view to enable the seamen to quickly establish in his own mind the identity of a light, and this has been recom-



mended and adopted in the case of Tuskar, which in its present form requires three minutes to discover its full nature. This period is too long in rough weather, when from the motion of the vessel the light is only occasionally visible, or during fleeting fogs an occasional sight only can be obtained, but in its new form it will discover itself in one and a-half minutes.

“The advantages derived from the adoption of flashing lights over fixed lights, through the condensation of the whole illuminating power into one ray, are undeniable ; but the disadvantages of the same would, in my opinion, become equally apparent were the durations of visibility reduced below five seconds, and I am inclined to advocate no diminution of time below this period.

“*Thirldly.*—As regards Sir W. Thomson’s advocating the abolition of the use of coloured lights as a distinction in light-houses, I consider that an immense advantage is obtained by the interposition of red lights, and a similar one might be derived from the use of green, but only in cases where the lights are required for short distances, as the results of the trials at Portsmouth, in November, 1878, at which I was present, showed that a dark green light, though the best for distinctive purposes, is not visible at long distances, and the light green has a tendency to show white as it approaches its extreme limit of visibility. The drawbacks to the use of these colours are only observable if used by themselves as fixed lights, as they are then liable to be mistaken for ships’ lights, but this objection disappears when they are used in conjunction with white rays, or in a revolving, intermittent, or flashing form.

“Finally, in advocacy of the present system of lighting the coasts of the United Kingdom, I beg to point out that it includes four pure cases of white, viz., *white*, fixed, flashing intermittent, and revolving, supplemented, say by subdivision of the same, viz., flashing every five seconds, 15 seconds,

and 20 seconds, or revolving every five seconds, 15 seconds, 30 seconds, minute, and two minutes, which, neglecting intermittent lights altogether, gives nine white lights ; change the colour to red, and we have 18, and by alternating the white revolutions or flashes with red, we are in possession of 26 distinctive lights.

“To these are again to be added cases where there are double lighthouses, such as Eagle Islands and the Slyne Heads, the position of which admits of 339 combinations, and intermittent lights, whose number is great, but which, together with cases of double lights, I will only mention and not include in the following scheme. The principal lights on the coast are visible at distances of from 15 to 26 miles, and their areas all overlap one another, so that a vessel is never out of the radius of one before she enters that of another, and taking the lighthouses as 20 miles apart, the 26 simple lights placed in rotation would at once supply a system for 520 miles of coast without once repeating a single description twice ; and under these circumstances I cannot see that the adoption of a new principle would be attended with beneficial results, but on the contrary, as it is mainly owing to changes in long-established lights being overlooked or unknown that disasters have taken place.

“I trust, however, that nothing I have written will be taken as a wholesale condemnation of the proposed system, for I consider that the dot-and-dash principle, judiciously used, is the means of giving great distinctive qualities to a light, as in the case of the one in Belfast Lough ; but must maintain that were the system of coast lighting confined to it, it would, in my opinion, be fraught with evil results.

“ I am, &c.,

(Signed)

“ JOSHUA COLE,

“ Commander, R.N., Inspector.

“ The Secretary, Irish Lights Board.”

## THE AMALGAMATED BRITISH SEAMEN'S SOCIETY.

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IN the *Liverpool Mercury* of 13th May, I noticed a report of a meeting of seamen and stokers, held at Sandhills, for the purpose of calling attention to the present low rate of wages of the port of Liverpool, with the view of obtaining an increase of wages from the employers. No one of an impartial mind acquainted in the slightest degree with the vicissitudes of a seaman's life and the present rate of wages can blame them for calling attention to this, to them so important a matter, but it appears some of the spokesmen of that meeting endeavoured to do so at the expense of an existing association, which has operated for eight years in a spirit of moderation, more so than any trade union in existence, even to opposing—and successfully—unnecessary shipping legislation, although advocated by the Trades Union Congress. I refer to the extension of the Employers and Workmen Act, and the Conspiracy and Protection of Property Act, to seamen. The report states that the “action of the Amalgamated British Seamen's Protection Society was strongly condemned,” and all connection with any association disclaimed by the meeting; and being entirely at a loss to conceive what action of this society was condemned by the speakers, I would ask them to explain their meaning more fully when they meet again. Is it that this society is too much opposed to “strikes,” and has taken every means and precaution to avoid them; or is it that we disclaim any connection with “public agitators?” Whatever their meaning is, we are prepared to keep on in the way of moderation and fair play, which has gained us many supporters both in and out of the House of Commons, both shipowners and shipmasters, and which we have reason to think is for the best interest of our British seamen. Their disclaimer has of course rendered a disclaimer from this society unnecessary, but it is evident that men such as attended the meeting at Sandhills, although not society men, are bent upon reaping what this society has sowed, and share the harvest to which they have only contributed the seeds of discontent.

WILLIAM PATERSON LIND,  
General Secretary.



T H E  
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THE SHIPMASTERS' SOCIETY.

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THE Fourth Annual General Meeting of this Society was held at the Cannon Street Hotel, on the 14th June, when the Annual Report, which we gave in our last issue, was read. After which

The CHAIRMAN (Captain W. L. Darke), in moving the adoption, said:—In making one or two remarks I will not detain you very long. We have every reason to be thankful for the state of the Society. We have passed through a year of very serious times in the Mercantile Marine, but, in spite of all that, we have a balance to the good. The amount in arrear, I am very sorry to say, is very large, and very difficult to lessen, in consequence of a great many of the captains being away, and not leaving anyone behind to pay the subscriptions as they become due. In more than one instance our Secretary has had to issue as many as twelve or fourteen notices before getting the money in. We have deemed it advisable to exchange our opinions with the kindred societies in the different towns, Liverpool, Sunderland, Hull, and all the outports, and we have been very cordially received, and they have come forward to help us in every way possible. We are on very good terms with them,

and in proof of it we have several of the gentlemen here now. We have Captain Gatgens, the President of the Hull Society; from Sunderland we have Captain Watson, the Vice-President, Captain Davidson, and Captain Dryden of the Committee, who have come amongst us to hear what we have to say and to co-operate with us.

Captain BENSON: Mr. Chairman and Gentlemen, I see by the Secretary's agenda that I am asked to second the adoption of the Report that has been read to you. As a number of gentlemen are to speak this afternoon, I will very gladly avail myself of Captain Darke's example, and will not detain you long. I think we are all tolerably well satisfied that the Society, if it has not gone up like a rocket, has gone up very much better; it has gone up slowly and therefore is not likely to come down like a rocket-stick. Several of our friends have departed; this is a thing we must expect as regularly as the Report is presented to us. We can only sympathise with those who are left behind. You find that there are very few of our members for whom we have had again to interfere with the Board of Trade. With regard to the system of allowing costs by the Board of Trade where the master is clearly proved not to have been in the wrong at all, is a subject which shall receive the attention of your Committee. The interchange of opinions and ideas with kindred societies has gone on in a very satisfactory manner, and I think that also is a subject of congratulation—to find us all with one accord pulling towards the same desirable end. The Bills that are before Parliament now are very closely watched by our Secretary, and there is no doubt that they will find their way after the others, they will go into Committee; and where they will go to then has yet to be ascertained. I have again to mention the Widow and Orphan Fund, and I must say I wish this subject was in the hands of a very much more able man than I am, to plead the cause of the widow and orphan. If I cannot plead it

with any eloquence, I can, at all events, plead it with very much sincerity, and I do feel greatly that your Committee has not been armed with means to assist those unfortunate ladies whose hard lot it has been to appeal to us, in a more substantial manner. The fact is we have absolutely nothing. That is a thing which ought not to be, and I do hope and trust that the time is not far off when you will give your Committee greater help, because remember it is natural that these ladies should come to this Committee to ask for some assistance, which is generally of a temporary character. You cannot ask the Committee to do everything; they cannot carry a ship on their backs, but I am certain they will, one and all, assist that fund to the utmost of their power, considering the various calls they have upon their slender purses. But I think the members of the Society ought to set that example and assist those who are left behind by their brother shipowners. For one, I am certain I will do all I possibly can. It is a very painful thing when a lady writes to us and asks to be assisted with some temporary aid in the time of great misfortune, that we have to make answer to the effect that we have no funds at our command for that purpose. Gentlemen, I ask you very earnestly to consider that, and see whether you cannot do something. The Committee will help, but let it be shown that the members are desirous that such means should be placed in the hands of their Committee, as will enable them to give assistance when application is made, because being in the hands of several gentlemen, you may be sure this fund will be dealt with very fairly, and only in such cases as they consider should be met. I think on the whole this Report may be taken as satisfactory, and I have only to beg of you to suggest to those gentlemen who are not in the habit of paying their subscriptions as they become due, to take Captain Darke's suggestion, because without money we cannot get on. I am perfectly certain if we only make our



ropes out of hemp instead of sand, this Society will become what it was intended to be: a very solid bulwark for the protection of the British master.

The motion that the Report be adopted was then put to the meeting and carried unanimously.

Captain WILLIAMS: I think that, considering the great depression in our shipping interest that we have had during the past few years, and taking into consideration the time this Society has been established, we have every reason to take courage and to go forward. If we look at the Report, we find that we have 538 full members up to the 1st March, and financially we have a balance of £167 16s. 11d., being £50 more than we had about this time last year. I think that those are matters of very great congratulation on our part. Now, you know it is an old saying that Rome was not built in a day, and we are only as it were in our infancy. I have very little talent, I have no talent as a speaker or a writer, but there is abundance of talent in our profession which will make our Society a very great and good one. It will in the end, if our members will only have patience, make itself felt far and wide. We know very well that up to this time we have made ourselves felt, and that in the right way the Members of Parliament have taken a great interest in our Society. At this moment, we have a member of the Ship-owners' Society in our room, and also the Chairman, Mr. John Glover, and we have also a member and the Chairman of the Local Marine Board. We do not want always, as it were, to be patted on the back, but we do know that we want sympathy from those with whom we work. I do not think there are many independent-minded men that would like to say they were pitied, but we do like a kind hand held out to us, and a feeling of sympathy shown by those with whom we are more intimately connected, and therefore I feel quite certain that if our members far and wide, every member belonging to our Society, will only do their best and will have

a little patience, the time will come when it will be a very influential Society.

Mr. JOHN GLOVER: In the first place, allow me to congratulate you on the position your Society has already attained. I do not quite understand the—I won't say doleful appeals for sympathy, and help, and so on, which I have listened to already. It seems to me that, considering the very short time this Society has been in existence, it has got on remarkably well, and I think you will say that I am not speaking without good reason for that opinion, when I add that I judge from the account that the Shipmasters' Society is at this early period of its existence in the enjoyment of an income about double that which the Shipowners' Society, of London, enjoys. I really do not see why there should be a matter for anything but gratitude under that state of facts. If your income is any criterion of your well doing you are doing well. I am very glad to see it. It strikes me it is a very important work that you have in hand. It is a matter greatly to be desired that in the important duties which are now put on captains of ships, and when the important legal consequences which are hanging on those duties are considered, captains should be improved. It is important that by literature, such as you are circulating, they should be constantly kept informed of what is going on, and, as far as possible, that they should be kept up to the mark in the very difficult times in which we are living. I confess that I listened with great satisfaction to one statement in the Report, namely, that you are giving attention to the subject of grain cargoes. There is mischief brewing on that point, if we do not take care, and mischief which affects owners, and which, because it may endanger human life will certainly affect captains. The best captains with whom I am acquainted are decidedly of opinion that there is no proved necessity to carry all grain cargoes in bags, and above all things, that it is not necessary to carry

light grains, like oats and barley and some other light grains which I could mention—grains from the Baltic or Mediterranean—in the same condition as you would carry grain from Canada and the United States, making no distinction between the summer season when carrying is comparatively safe, and in the winter season when it is comparatively hazardous. I hope as the result of the attention which this Society is giving to that subject it will be of advantage to the President of the Board of Trade, who has a hearing ear, and who is willing to be instructed and willing to learn. I hope that some of your very best and most experienced men will be allowed to give evidence before the Committee of the House of Commons now sitting on that subject. We all want safe carrying. Anyone who knows what a struggle we had with foreigners about twenty years ago, or a little more, and through what up-hill work the English shipowners had to go to recover the proportion of our own trade which we had before the repeal of the navigation laws, would not like the prospect of any new conditions imposed by an Act of Parliament which would be likely to give advantage to foreigners in our trade. There is no prospect of any enactment applicable to foreigners, and foreigners even yet are carrying a large part of the grain which comes to the United Kingdom. It is quite true, so far as steamers are concerned, the bulk is brought under the British flag, but an enormous quantity of grain is brought here by sailing vessels, and so far as they are concerned the foreign flag brings more than the British, and from these proposed Bills foreign flags will be exempt. We do not want to give foreigners any such advantage in our own business. There is no proved necessity for it. The facts do not justify it, and we do not want Parliament to make a great mistake, because if the Bill which is now referred to this Select Committee should become law, it would not only lead to a greatly increased expense in the carriage of grain to the consumer, but, what is worse than all,



it would lead to more wrecks, to more ships turning turtle, to more ships being unreasonably tender at sea ; and when you know what is likely to be the result by any legislation of that kind, practical people who are to be affected by it should speak out in time, and should take care that neither a Parliamentary Committee nor the House of Commons should be in a position to make that mistake so far as it is in their power to prevent it, by giving evidence before the Committee. Then, gentlemen, if I may be allowed to say another word, I think there is one subject about which I see you are complaining, and it seems to me you are complaining with most excellent reason. The law has made you a professional class. It requires that you shall pass through certain periods of service just as a doctor ; that you shall pass certain examinations, and before you pass through that period of service and pass those examinations you cannot get a status which entitles you to command any British ship. I say the law has, in so doing, made you professional persons. You are right in insisting on having the rights of a professional class, and at present you are not getting them. I think that state of arrangements by which an inquiry is held, the nature of which it is impossible to foresee, by which a master may find himself deprived of his certificate, is a most un-English proceeding, and is a proceeding, so far as I know, which has no parallel in any other legal procedure in England. Moreover, it is not only an opinion that you may be likely to form on that subject, but when you know that the Royal Commission, which sat a long time on shipping subjects, gave most exhaustive attention to them, and at last made a final and deliberate and very judicial Report, which is distinctly against that practice, I think you are right in determining to keep before the Board of Trade and the Legislature that recommendation of the Royal Commission, and to keep it before their attention until you get it in an enactment. I may, perhaps, be allowed to remind you

of what it was the Royal Commissioners said :—" We are of opinion that the present system under which the certificate of the master or other officer is suspended, very frequently for an error of judgment, should be entirely discontinued, and that neither the Court of Inquiry nor the Board of Trade should have the power of dealing with the certificate. We think that the certificate of the officer should never be suspended, but that, in cases to be provided for by express enactment, the tribunal before which the affair is tried should have the power of cancelling all of his certificates, or, at its discretion, his higher certificates, leaving him in those cases the power of finding employment in a lower grade." Now that is not your opinion, that is the opinion of the Royal Commissioners. I say you are wise and right, and in every respect justifiable in asking that you should have the benefit of that opinion. Suppose that opinion had been against you. You know the authority of the Royal Commissioners would have been pleaded against you for the continuance of the present state of affairs of which you are complaining. After careful enquiry they have given this opinion in your favour, and you are, I say, right and wise in seeing that that opinion should be acted upon, and not giving up your efforts till it is. These inquiries seem to me to do two great wrongs. It is a wrong to the captain to suspend his certificate for an error of judgment. I should like to know, gentlemen, how many lawyers we should have practising in the City of London if every lawyer who had committed an error of judgment were struck off the Rolls. I should like to know what would be the decrease in the number of doctors if every doctor who gave a pill too many, or a black draught when he should have given a tonic, had lost his diploma. You are a professional class like those, and I say to punish a man for mistakes committed in a moment of time, when choice may be difficult, in a time when even to make a mistake may appear to be the best thing—that is

to say, which may be the least of two evils; to punish a man in that way as if he acted with deliberate intent to do wrong is not giving you, as a professional class, the treatment you are entitled to expect at the hands of the British Legislature. Not only is that a wrong done to the captains, but there is a grievous wrong done to the owners, and that is the respect in which, on that subject, owners and captains (as in most others, happily) sail in the same boat. Our captain commits an error of judgment, and the Court comes to that conclusion, and before we know where we are an action for damages is entered against the owner for all the consequences which spring from his servant's error of judgment. Now, the old idea of maritime adventure was that the owner risked his ship, that the merchant risked his goods, and that the captain and crew risked their lives, and all these Parliamentary artificial liabilities have been brought into the maritime Act in reduction of the original idea of maritime adventure, and very greatly to its prejudice. It is not fair to punish me, as one party to the maritime adventure, for an error which has been committed by a gentleman who is a professional man, and who carries with him a Board of Trade certificate of his competency. So that I say, both owners and captains are right to object to that, and I hope as you have already succeeded in one point—you have succeeded about the assessors—you have gained an important step there, and I have reason to think there are many people at the West End, connected with the administration of the law in maritime matters, I mean the Board of Trade, who are very glad you have succeeded. I hope you will succeed in this second step, and that you will not rest until you get far better arrangements made, before it is possible for any gentleman who once has become entitled to the Board of Trade certificates of his competency finally losing it. One word more before I sit down. This is only one part of a subject. The



tendency is far too much in England to import State interference between masters and men, between employers and employées; and I am very sorry to see that, even in this new Parliament there is a Bill, which is not unlikely in some modified form to become law, for giving a further extension to what I cannot call anything else but a bad principle. I think it is a bad principle to hold a man responsible for what he does not intend to be done, for what he orders not to be done, simply because his servants have done it. Well, our interest, that is the shipping interest, is the most conspicuous interest in England on that subject. There is no interest in which Government interference has been carried to such a degree as it has been carried with our interest. Tell me, what other employers in England are subject to such a degree of interference? I know of none; and I tell you more, I do not know any class of Englishmen, either as employers or masters, who would stand it; and we ought not to stand it one hour longer than we can help. Has it been justified by the result? I think not. You know that in recent years, the thing we have been constantly hearing about our seamen is, that they have been deteriorating. Another statement has been that, whereas the total number of men under the British flag has been about 200,000 for a great many years, an increasing proportion of that number has been foreigners. Now, the Englishman does not like this interference. They have had far too much protection, and I do not think either the owners, or the officers, or the men are benefitted by it. This interference does not reduce accidents, it does not sweeten the relations between officers and crew, it does not improve the quality of Jack, and if it does not do those things what is the good of it? We did not enter on that for the purpose of making an army of officials. I say, after a great many years experience, that there is a greater degree of interference with maritime industry than with any other industry. There is nothing to justify it. I therefore

hope, before long, we may find some general movement for the reduction of that interference and not for its continued existence—to remove it out of existence in the same way as our Yankee friends did the Red Indians. I have great pleasure in supporting the Report. I congratulate the Society on the usefulness it has already attained. I think there is greater usefulness in store for it. Up to this point, it seems to me to have done a great deal of good. I hope it will go on and prosper.

MR. THOMAS SCRUTTON: We have listened to our friend Mr. Glover with a good deal of interest. He is always outspoken, saying what he does in a manly way. How far we should entirely agree with him I am not quite prepared to say. I look back to the time when there were no certificates, when sailors were paid at the shipowner's office or on board the ship, and I cannot help thinking that we live in better days, although there is an amount of interference which was unknown to us thirty or forty years back; still I have a very strong impression that greater justice is done all round and greater security is given than under the old system. I cannot help feeling, although there has been interference, perhaps in some cases a little too much, on the whole the public is better protected, the captains of ships are in a better position, and sailors are better looked after than under the old system. I believe distinctly that we have, as commanders of our ships, a far better class of men than we had forty years back, a more educated class of men, a more intelligent class of men. On the general question, so far as I officially come into connection with the matter, the cases are very painful. My position as Chairman of the Local Marine Board brings me into connection with cases of gross misconduct. Looking back over a series of years I cannot help feeling in connection with these inquiries we have performed an essential service to the shipping interest. We have weeded the Mercantile Marine of men who were an

utter disgrace to it, and I cannot call to remembrance any case, looking at the decisions at which we have arrived, in which we did not do a positive kindness to the service generally by removing, in some instances, men who had no right to occupy such positions. But I do feel this in connection with a Court of Inquiry. I should like to see on it captains of vessels. We have simply ship-owners or nominees of the Board of Trade, and I have felt when sitting round the Board it was not a satisfactory Inquiry to exclude people who have a special knowledge on the subject which we have to inquire into. I think something should be done so that when the nominations come round again men connected with the sea should be elected, who would be a great assistance to those who hold office and would be a satisfaction to those whose conduct is inquired into. As far as I remember the constitution of that body is made up of six shipowners and six nominees of the Board of Trade, and those nominees are not taken, except in one or two instances, from the Mercantile Marine Service. If your Committee could look into the question so that when every three years the nomination comes round you could see that those interested in the matter are nominated, you would be rendering a service, for the purpose of which this Society was established. I do not think there would be any difficulty whatever in getting the Board of Trade to look very favourably at your communications, and if it were necessary to give an introduction to the Board of Trade or to Mr. Gray, I should be exceedingly happy to be one to render any assistance in that way. The service is not a paying one, therefore there is not an awful rush to get on the Board, and I do not think you would have the slightest difficulty in getting three to represent the officers in connection with any Inquiry that is held.

The CHAIRMAN: Gentlemen, I think it is our duty to return our thanks to Lord Sandon for the great kindness he



has shown us in assisting us last year. The Bill which he introduced has proved most acceptable to the Service, and has removed many hardships under which masters and officers for years laboured. I feel sure we are all convinced that since the Act was passed, the decisions in Courts of Inquiry have been more in conformity with our ideas, and therefore I feel it a pleasant duty to propose a resolution which I know has your cordial approval, and that of all officers of the Mercantile Marine. But while we pass this resolution of our thanks to Lord Sandon, we distinctly wish it understood that the act is in no way whatever to be regarded as prompted by political motives :—

“At this, the Annual General Meeting of the Shipmasters' Society of London, supported by the kindred Societies, Sunderland, Hull, Liverpool, and Leith :

“It is resolved to record the sincere gratitude which is felt by the masters and officers of the Mercantile Marine to Viscount Sandon, M.P., who, by introducing the Merchant Shipping Casualties Investigations Rehearing Act, has provided for a Court of Appeal, and by the reconstitution of Courts of Inquiry has removed many of their long-standing grievances.

“It is further resolved that the Committee of the Shipmasters' Society be requested to take such steps in concert with the kindred Societies as may be considered desirable, in order that the above may be embodied and presented in a suitable address to his Lordship, when duly signed by the kindred Societies.”

Captain GATGENS (President of the Hull Society) : I have great pleasure in seconding the proposition, and I have also a pleasant duty to perform, and that is, that I give you my Association's most sincere and hearty thanks for your kind invitation. I may say you have our most sincere co-operation and always will have, I doubt not, throughout our existence. As long as we work unitedly there is not the

slightest doubt we shall succeed ultimately. It gives me great pleasure, therefore, to represent the Hull Society, more especially as it has been moved that a vote of thanks should be given to the late President of the Board of Trade, Lord Sandon, for his kindness towards the shipmasters and officers of the Mercantile Marine in promoting the Shipping Casualties Bill. We all remember the kind reception he gave us when we were introduced to him by the member for Hull, Mr. Norwood, and we also remember that at that time it was resolved at the preliminary meeting that the Bill was to be adjourned, if possible, in order to have more mature deliberation upon it; and when your worthy Chairman mentioned this point to Lord Sandon I remember the wise counsel which he gave us. He said it might be possible we might never have another opportunity such as that of addressing him as he might not be in the same position at a future time, which has really come to pass. I quite believe that Lord Sandon had, at that time, and even now has, our cause at heart. I hope his Lordship will be spared long to do further good for his country. I am sure we are all indebted to the late President for his kindness to the Mercantile Marine. I have only one more remark to make, and that is, that I congratulate your Society in moving this token of respect to Lord Sandon. I am sure it gives our Association great pleasure in uniting its thanks with yours to his Lordship. No doubt it will be very gratifying to him, and it will let him see we are not a forgetful class of men, and that we are not ungrateful.

Captain WATSON (Vice-President of the Sunderland Shipmasters' Society): It is only by accident that I happen to be here. Captain Henderson was called on Saturday to attend the Royal Commission on the Grain Cargoes Bill, so I will just briefly support the remarks of the President of the Hull Society. Your motion has our cordial support. With reference to some of the remarks made by the Chair-

man of the Local Marine Board, I may say that we have on several occasions recovered costs of the Inquiry. Lately we had a letter from the proper authorities saying, for the future, after consulting with the different Departments as to making the application, costs will be allowed.\* It has been allowed in many cases already. I have great pleasure in supporting the resolution.

Captain DAVIDSON: As one of the deputation which has the honour of representing the Shipmasters' Association of Sunderland, I have to offer you our sincere congratulations at the continued success of your Association. I may say our worthy Secretary, Captain Henderson, who took a very fair share in the deputation who waited on Lord Sandon, would have been very pleased to have been here to-day, but on Saturday last he received a notice to be in attendance to-day at twelve o'clock, to give evidence on the Grain Cargoes Bill. I may mention that the Sunderland Association have had the question before them since December last. I may tell you that there has been, and it still continues to exist, great diversity of opinion as to whether it would be better to carry grain cargoes in bags. We have considered the question from various points. In reference to one part of the Report, I may say, as our Vice-President has mentioned, it will be a matter of congratulation to you to know that we have for several months past recovered the expenses of various masters whom we have defended before the Board of Trade Inquiries. We have long been hampered by the Board of Trade, and in one case we determined that we would carry it further. We notified, through our Solicitor, to the Board of Trade, that if we were not paid it was our intention to take it to the higher Courts, and as we had been fortunate

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\* We fear our friends are under some misapprehension, for it will be seen that the letter referred to, published on page 339, nowhere says that the master's expenses of attending the Board of Trade Inquiry will be paid, it is limited simply to his subsistence money.



since our formation in securing the first case we carried to the Queen's Bench from the Board of Trade, we had some little encouragement to proceed with that case. It only needs the application of your Solicitor, with the able assistance of your Committee, and you will be able in the future to secure the expenses of your members who are acquitted by the Board of Trade.

The resolution was then put to the meeting and carried unanimously.

Captain WILLIAMS: The resolution I have to move is—

“That the cordial thanks of the Society are due and are hereby tendered to Mr. Norwood, M.P., Capt. Bedford Pim, R.N., late M.P., for most valuable assistance received on the occasion of the introduction of the Shipping Casualties Investigations Bill, to Sir Andrew Lusk, M.P., for presenting petitions, and to numerous members of the House of Commons for furthering the interests of the Society.”

I need not occupy more time at this late hour than merely to express our great thanks for the interest that the gentlemen whose names are mentioned have taken in our Society, and for the common cause of our cloth. Everyone of us I think will cordially approve of this resolution, seeing that they have done us such great service in bringing our grievances before the proper authorities.

Captain BUCHANAN: I am very pleased to second this resolution. It is in the knowledge of all of us what great assistance we have received from these gentlemen, and I am sure we shall always have their help.

Captain FAITHFULL: A resolution has been put in my hands which I have great pleasure in proposing, as I have always been of opinion, and am still, that in order to obtain the assistance we ought to receive we must all be united. I beg to move a vote of thanks to the shipowners who have attended this meeting and assisted us in our efforts to promote the welfare of master mariners.

Captain VAUX: I have great pleasure in seconding this resolution.

Captain GODDARD: Mr. Chairman and Gentlemen,—The task allotted to me is a very pleasing one, and I rise with the greatest pleasure to fulfil it as far as I can. I happened to be one present in London some few years ago when that unfortunate case of poor Captain Barnes occurred, and I well remember with what feelings of shame and indignation we first became aware of that case of injustice. As you know that case was pretty well the cause of the Society being formed to which we now belong; at any rate that gave it the impulse. I was not one of those few energetic members who moved in the matter of forming the Society, but I was one of the first to follow their lead and to recognize, as one was obliged to do, the necessity of such a society. At the same time very little thought of the matter showed there were some difficulties in the way of the probable success and smooth working of this Society in the port of London; for we must recognize that there is a great difference between our position here and the position of those in other ports. Assuming the Society to be formed, it was scarcely possible to select from our own active members a number of gentlemen fitted, willing, and able to act as a Committee. Under the circumstances of the case it was scarcely possible they could have sufficient time in London to properly develop the Society, and it was less likely a sufficient number of them would be at home on the spot at any given time to take up and work out any case that came before them, of which it was to the interests of the Shipmasters generally that notice should be taken. I saw all that and I felt that was one of the greatest stumbling blocks in our way, and it was not until I saw that a few gentlemen had formed themselves into a temporary Committee that these stumbling blocks were removed. They sought the assistance and received the aid of gentlemen who have since so kindly and energetically

acted for us. As you know it was a point, and a very grave point too, that nothing should be done at that time or at any future time by our Committee which should interfere in the slightest degree with the relationship between the shipmaster and shipowner. Then we wanted men who, having passed their time at sea, were perfectly conversant with the rest of the shipmasters, and having retired from the active duties of their profession were conversant with the shipowners. I think we have had on our Committee gentlemen who have possessed and commanded confidence and esteem. Then there was another point; it was necessary we should have men whose past experience, whose professional career and moral character were such, that when the time came when it was necessary to appeal to the Board of Trade or to Parliament, they should command respect and attention. I think our Committee have possessed respect and confidence. Then again, there was a third point; it was necessary that having the experience which I have alluded to, they should still have that sympathy with us by which we could depend upon advice when in difficulty, and support when in trouble, trouble brought about by no fault of our own, but through the force of circumstances. Mr. Glover has pointed these difficulties out. Unfortunately through the ignorance (not from feeling, depend upon it) on the part of our Legislature, they have increased those difficulties and irksomeness. I think our Committee have shown by their conduct throughout, they possess the qualifications I have referred to in a marked degree, and I congratulate you that we have a Committee who with such devotion work for us. Possibly some of us feel a little difference of opinion about the tone of certain Papers printed in our Magazine, or the Papers read in our home; we may think too much has been said about men and not measures, but that sinks at once when we come to be asked to express our gratitude and thanks for what has been done by our Committee of Management. I know



there are those amongst you who feel just as keenly as I do this gratitude and thankfulness to our Committee, and I know there are those amongst you who would express that feeling better than I can ; but I ask you to accord a hearty vote of thanks to the gentlemen who have continued to act as our Committee, for their untiring and unselfish devotion for our interest.

Captain ALMOND : I rise with much pleasure to second the cordial vote of thanks to our Committee.

The CHAIRMAN : I rise to thank you for the very kind way in which you have expressed yourselves to the Committee for the interest they have taken in your behalf from the time of the commencement of the Society. I can assure you they really have felt a thorough interest in your behalf. I need not tell you that as far as those are concerned who have left the sea, they need not care which way the shipmasters are treated ; but they really feel they owe to the shipmasters a kindly interest which cannot possibly be got over, and I do believe the interest in each one of you is just as great as if they were interested themselves. Not only that, I feel the shipowners in London all take a kindly interest in you ; they all take their part when opportunity offers. I beg to thank you for your vote of thanks.

A vote of thanks to the Chairman for having presided, terminated the proceedings.

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At an Extra-Ordinary General Meeting, held on the 8th July, the minutes of the above-mentioned meeting were unanimously confirmed.

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THE CASE OF THE S.S. "CARFIN."  
COURT OF APPEAL.

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THE second appeal under the provisions of the Shipping Casualties Act was instituted by the Scottish Shipmasters' Society, against the decision given on the 26th April in Glasgow, in the investigation into the circumstances attending the stranding of the *Carfin* on the Grantock Rocks, Firth of Clyde, in March last.

The Inquiry Court found that the master left the bridge for three or four minutes, and put the vessel in charge of the first mate, at a time when its safety required his personal supervision; that he was not justified in doing so; that the mate during the time he was in charge did not navigate the vessel with proper care; that the course of the vessel was altered from S.S.W. to W. by S.  $\frac{1}{2}$  S.; and that the master and first mate were both in default for the casualty, by which the ship was materially damaged. The Court ordered the certificates of the master and first mate to be suspended for six months.

The appeal was heard on the 1st June, but unhappily was dismissed, and the judgment of the Court of Inquiry was confirmed, the appellant being found liable in expenses.

Lord Ormidale, in giving judgment, said this was the first case that had come before the Court under the recent Statute, "The Shipping Casualties (Appeal and Rehearing) Rules, 1880," which came into operation on 21st April last, and under it they had the advantage of Assessors. They had had that advantage in this case, and they had had a very satisfactory conference with the two gentlemen—Captain Ward, Newcastle, and Captain Murdoch, Edinburgh. These gentlemen were quite decided in their opinion, and both agreed entirely. The only question of importance which they had to consider was whether the captain in the circumstances was justified in leaving

the charge of the vessel for three or four minutes in the hands of the first mate. The first mate was a man in whom great confidence might have been placed, a man with great experience of seafaring life, and one who had a master's certificate ; but still, with all the skill it may be presumed he had, he had not the responsibility of the captain of the ship, who, having a great responsibility upon him, might be expected to have exercised greater vigilance than any subordinate. After conferring with the Assessors, the Court was satisfied that the course the ship was steering at the time when the master left the bridge was a correct and proper course, but in some way that had never been explained that course was subsequently altered. The purpose for which the master left the bridge was to call one of the officers of the ship, and both the Court and Assessors were agreed that there was no justification in the circumstances for his doing so. There was a probability that if he had not left the bridge the accident would not have occurred. Being so advised by the Assessors, he held that the appeal could not be sustained, and that the judgment appealed from must be affirmed.

Lords Gifford and Young, while sympathising very much with the Captain, concurred.

Lord Ormidale also sympathised with the appellant, and read a note which had been handed to him by the Assessors, which was to the effect that it was a very hard thing to deprive a man not guilty of a criminal act of the means of earning a livelihood. They were of opinion that to meet the ends of justice, the Board of Trade should be petitioned to grant a mate's certificate to the captain and a second mate's certificate to the mate for the six months.

It was agreed that the Board of Trade should be petitioned, and that the Nautical Assessors' recommendation should be presented with it. We are pleased to say the Board of Trade at once attended to the petition and returned the master his certificate.



## MR. PLIMSOLL AND COURTS OF INQUIRY.

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WE have never failed to appreciate Mr. Plimsoll's motives, nor do we undervalue his efforts to improve the condition of sailors. We have always admired his persistent pegging away at any object he considered right and just.

When, therefore, we read the evidence which he has given before the Merchant Shipping Committee, we are surprised to find him hesitating and irresolute, driving in his pegs with one hand and knocking them out with the other.

After drawing attention to the numerous losses of ships, and apparently complaining that the Board of Trade had in far too few instances set Inquiries on foot in respect to them, he goes on to say : " That it would be far better to promote inquiry before a ship left port than that such should be made after the ship was lost," and he does not hesitate to go even further, for he says : " That the only use of the Board of Trade Inquiries had been to furnish evidence, showing how useless they were."

We cannot help thinking that Mr. Plimsoll has not taken the trouble to make himself acquainted with the result of these Inquiries. In numerous instances, the causes of the losses have been clearly ascertained and distinctly brought to notice. Moreover, in many cases, the cause turned out to have been precisely that of which Mr. Plimsoll has been so energetically complaining, and in several instances the Courts, so far as lay in their power, have inflicted penalties marking their sense of the evil.

If underwriters and individual sufferers are so supine as not to take further action in matters so directly affecting their own interest, it is not the fault of the Courts of Inquiry. We scarcely think that Mr. Plimsoll would desire to see those

Courts invested with a penal jurisdiction, which it is the province of the courts of law to exercise. So far from being utterly useless, we understand that the decisions of the Courts of Inquiry, in several instances, have had a salutary effect. We have had occasion as shipmasters to protest, and with effect on more than one occasion, against inflicting punishment for a mere error of judgment, but we have never doubted that, as a rule, the decisions of Courts of Inquiry have been just and sound. But it is not only in reference to the conduct of the shipmaster or his crew that the action of the Courts is felt to be satisfactory. In the face of Inquiries like those held on the *Marlborough* and others, an owner would feel it hopeless to attempt to recover his insurance, and could not resist claims for damages, and we confidently hope to find that cases of dangerous overloading and undermanning will soon be no longer heard of.

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## CORRESPONDENCE.

*To the Editor of "The British Merchant Service Journal."*

SIR,—As a member of a kindred Society, Hull, will you, through your valuable journal, allow me to express my surprise that none of your members, nor anyone else that I am aware of, has taken any notice of dunnage in grain cargoes.

Doubtless many steamers are lost through being built out of proportion, some few by overloading, few, if any, in my opinion, by being double-bottomed. (The best sea boat I was ever in had a ballast tank extending from her foremast to her mizenmast, of course in compartments. I had all kinds of cargoes in her.) But I firmly believe that scores

of ships have shifted their cargoes through faulty dunnage, especially in ports where wood is dear. This happily is not the case in the Baltic where wood is cheap. I hope some abler pen than mine will take this matter up. I believe it is worth considering.

Now with regard to foreigners. In your journal of May, page 222, Captain Burrows says: "Ask any old sailor," &c., &c., &c., "and a deterioration has taken place in the sailor is beyond doubt," but he does not in my opinion give the right reason for this. I think the cause of the so-called deterioration can be soon found if looked for. First, the better class of men (a good many Reserve men amongst them) have gone into the fire brigades, railway companies, &c., and consequently left the inferior man behind him. Secondly, steam, which is ever on the increase, uses sailors, but does not make them in proportion. Thirdly, hundreds of quasi-criminals are sent to sea from the different reformatory ships every year. Some of them are shipped on board of foreign ships as well. Two such cases have come under my own notice, so we shall soon have the foreigner singing out about deterioration and broaching cargoes. Foreigners may be divided into three classes.

1st. The skunk that is of very little use in his own country, and less anywhere else. 2nd. The man that has ambition but no means of getting on, who comes to England or America, sticks to his work and his money, and in a few years goes home and gets a fair start in life. 3rd. The man that always stops at home. We have too many of No. 1, quite enough of No. 2, and No. 3 we don't want. I am happy to say foreigners, especially Prussians, are disappearing from our port, and Englishmen are taking their places.

This last winter I was frozen up seven weeks at Bolderaa. Crew found their own provisions, consequently always had money. A train went to town every night and returned first



thing in the morning. Not a single man was away from his work an hour the whole time. They were Englishmen. I always carry them.

In your April number (I have not got it by me), a correspondent says he loaded grain in bulk, with four tiers of bags on top. The bags worked into the grain, and his cargo was adrift. I am not surprised. Had the grain been well trimmed, then covered with boards or deals, the bags properly stowed on top, I am thoroughly convinced that the cargo, providing the bags came close up to the deck, could not shift. Grain will not fasten itself either in bulk or bags.

In conclusion, let me thank Mr. Ritchie, M.P., and Mr. Churchwarden Coombe for the character they have given the British sailor. Who dare now say he is deteriorating, when he by his morality is ruining the East End of the richest city in the world. May the *Midge* prosper and soon multiply.

Yours truly,

ALEXANDER R. MONRO.

Riga, Russia, June 24th, 1880.

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*To the Editor of the "British Merchant Service Journal."*

SIR,—“Many men, many minds,” is a saying that applies to shipmasters’ as much as any class of men. I, for one, hold different views from many of my brethren on the subject of crews, &c., also “Why do cargo steamers founder?” and with your permission will give expression to them in a condensed form.

Regarding crews, “W. C. S.” expresses the opinion of a great many of our shipmasters; I don’t think it is a just and right opinion, notwithstanding. Foreigners do not, I am persuaded, come up to anything like seventy per cent. of our

seamen, and for the good of the service, I trust they never will. On the Clyde, they are in a decided minority. For the last seven years I have had an average crew of about sixty all told, these I have been engaging on the average three times a-year, in London, Liverpool, and Glasgow. I don't believe I have had ten foreigners altogether in that time, in sailing ships of 1,200 tons; previous to that time I scarcely ever had more than two. I have a decided preference for my own countrymen—that is, British subjects—and believe it is the duty of every British shipmaster to foster, as much as possible, the growth of our own seamen. Those who have experienced “trouble” will, I think, bear me out when I say they are more to be relied on in a case of emergency than any foreigners afloat. I don't find them difficult to command. Command of one-self, combined with coolness and firmness—not tyranny—are necessary, and will, I think as a rule, be found sufficient. I carry men for years; they are hard worked, and discipline is pretty strict, but they are well-fed and comfortably lodged, and if men are well-fed and otherwise comfortable they don't think so much of a little hard work. Foreigners are in general more pliant, hence the reason of their being more easily led by a “forecastle bully” to commit acts of insubordination and mutiny, that a majority of our men would not be led into. I do not think “W. C. S.” is right when he says the bulk of our shipmasters prefer foreigners; there are a few lovers of ease who take them as they are easier managed (ordinarily), but I think the majority of us consult duty before ease.

Forecastsles, as habitations, are much improved of late; a greater improvement still would be to have only a light monkey forecastle, to carry and work the anchors on, thus lightening the end of the ship, and give the crew a house, they would then go below to sleep, and come on deck fit for duty, instead of going below to lie awake during bad weather,

especially in a head sea, and coming on deck to keep a look-out (?) in a semi-comatose state, or to steer the ship, and very often flood the decks, and do damage before getting properly awake.

“ Why cargo steamers founder,” as they have been doing lately, is not a difficult problem to solve. They are faulty in dimensions and construction, and improperly loaded; if at all well proportioned and fairly powered—though deep—they will make better weather than the deep-sailing ship. The P. & O. are said by Captain Buchanan to be adopting double-bottoms, but they are not strictly speaking “ cargo steamers ; ” their upper deck is devoted to passengers and crew space in most of them, and I am almost certain their double-bottom only occupies engine and boiler space and therefore *does not raise the cargo*. Captain Darke is well qualified to give an opinion, and for that very reason his opinions should be qualified, as they are liable to mislead many managing owners of the “ house agent ” type. He says, “ Ships which would stand in a dock without any ballast at all would go perfectly safely without capsizing.” Now, take one of his own firm’s vessels, for instance, that will do that, and give her a double-bottom ; she will be stiffer in dock than before, but will not be so safe with a grain cargo, her centre of gravity being raised so much higher. Again, these double-bottoms are advocated as “ a commercial necessity,” but it by no means follows that they should be a *capsizing and drowning necessity*. Lloyd’s and other kindred associations should insist on plans being submitted to them before a vessel is built, on the same principle that a house builder submits his plans to a municipal body. The class that would be assigned to them could then be stated, and a *minimum* freeboard fixed. This would be no hardship on the *bonâ fide* shipowner who has a ship built for a “ property,” and it would be legislating for all classes of seamen in a right spirit. Those who want double-bottoms should be allowed to have them, but should be com-



pelled to give them greater beam and more rise of floor so as to ensure stability, and their load-line should be fixed hard and fast. It seems surprising where these "house agent" stamp of shipowners get their designs from. Sailors only need to look aloft in any of our crowded localities out of the City, and they will see houses for which plans have been passed, walls, &c., a certain thickness for three storeys; look a little higher and you will find a fourth storey called attics built of slates added, these are cheaply got up, commodious—and pay; why not carry out the principle in a ship say they, and they do, and get one of these double-bottomed make-haste-to-be-rich articles built, a few heavy cargoes and they are severely strained, and shortly afterwards they disappear, how? God alone knows, but we know that as a rule they are fully insured.

Grain in bulk, or coal, should not be laden too hurriedly; our old grain carriers that did so well were nearly all single-decked vessels, and elevators were unknown. Bulk grain should only be carried in single-decked vessels still, with shifting-boards right fore and aft, and carried well down; with bags a ship will stow better, bar the extra weight of the bags, as each bag *forms a weight to press down the one beneath; loose grain has not this advantage.* Coals will shift if not carefully trimmed. They shifted and caused the loss of a new iron ship four years ago, the *Scotstoun*, 1,600 tons, first voyage, Clyde to San Francisco. I have had them shift near Cape Horn years ago, and I could give the names of other vessels that have sustained damage through coal shifting. Many of our coal-laden ships that were lost a few years ago, are quite likely to have shifted their cargoes, there was little time for trimming them.

I am, &c., &c.,

CANAL BOAT.

June 17th, 1880.

The following letter is that to which reference is made on page 325 :—

“ 23rd March, 1880.

“ Messrs. Botterell & Roche, Solicitors, Sunderland.

“ DEAR SIRs,—Referring to previous correspondence, I have now the pleasure to inform you that the Board of Trade who, for a long time prior to the hearing of the *Ben Ledi* case, had taken steps to place masters upon the same footing, in regard to subsistence money, as the mates and other witnesses detained for formal investigations, have now obtained the necessary sanction of the Treasury.

“ The matter involved a departure from principles long since laid down and, as I have before explained, it became necessary to obtain the consent of the Treasury and other Government departments, before the desired change could be effected.

“ I am, &c.,

“ (Signed) WALTER MURTON,

“ Solicitor, Board of Trade.”

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ERRATA.—We are requested to make the following corrections in the article published in our June number, entitled, “The Inner Passage to Torres Straits” :—

Page 263. “Barren Reefs ;” read, Barrier Reefs.

„ 264. “S.E. or S.E. by S. ;” read, S.W. or S.W. by S.

„ 266. “Not *easy* ;” read, *easy*.

„ 268. “Lighthouses and Beacons, Ea and Eg ;” read, Fxd. Flshg.

## EMPLOYERS AND WORKMEN ACT (EXTENSION TO SEAMEN).

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ALL officers of the Mercantile Marine will be pleased to learn that the Bill which was introduced each Session for several years has at length been disposed of. On the 16th ultimo, Mr. Burt moved the second reading of the Employers and Workmen Act (1875) (Extension to Seamen) Bill, stating that its object was to bring seamen within the Act of 1875. At present seamen were the only class of workmen in the United Kingdom who could be punished criminally for a breach of contract. Mr. Chamberlain said the conclusion at which he had arrived was that it would be possible to do away with the existing law, which imposed a penalty of many weeks' imprisonment for breach of contract; but it would not be possible to do away with the power which at present existed of putting sailors on board. The Government would present a Bill dealing with this subject, and the whole discipline of the Merchant Service, next year. He could not assent to the second reading of the Bill, which went further than he was prepared to admit was desirable. Lord Sandon approved of the course taken by the President of the Board of Trade. He suggested, however, that a clause should be introduced into the Merchant Seamen's Wages Bill, providing that seamen should not be imprisoned for refusing to join their ship, but that they should be subject to a fine, the non-payment of which would be followed by imprisonment. The Bill was then withdrawn.

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## LIGHTHOUSE CHARACTERISTICS.

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THE following Parliamentary Paper has been issued in continuation of the correspondence respecting the Characteristics of Lights in Lighthouses, from which we published extracts in our last issue:—

“Committee of Lloyd’s to Trinity House.

“Lloyd’s, E.C., 18th December, 1879.

“Sir,—I am directed by the Committee of Lloyd’s to inform you that their attention has been drawn to a letter from Sir William Thomson, suggesting a reform in the distinctiveness of the lights in lighthouses, which appeared in the *Times* of the 2nd instant; and the Committee consider that the idea put forward by Sir William Thomson in that communication, that each lighthouse should furnish some distinctive mark by which it may be recognised, and not confounded with any other, is well worthy of earnest consideration.

“I am accordingly instructed to beg that you will be kind enough to place the subject before the Elder Brethren of the Trinity House, and invite their attention to the matter.

“I am, &c.,

“(Signed) HENRY M. HOZIER, Secretary.

“The Secretary, Trinity House, E.C.”

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“Trinity House to Committee of Lloyd’s.

“Trinity House, London, E.C.,

“9th January, 1880.

“Sir,—Adverting to your letter, dated 18th ultimo, stating that the attention of the Committee of Lloyd’s has been drawn to a letter which recently appeared in the *Times* (2nd December, 1879), that they considered the idea put

forward in that communication, that each lighthouse should furnish some distinctive mark by which it may be recognised, and not confounded with any other, is well worthy of earnest consideration, and that you are accordingly instructed to invite the attention of the Elder Brethren to the matter.

“ I am now to acquaint you that since my *ad interim* acknowledgment of that letter (24th December, 1879), it has appeared to the Elder Brethren desirable that some pains should be taken to explain to the important maritime interests represented by your Committee the *rationale* of the matter as viewed from an official standpoint.

“ Since the necessity for some mark of distinction has been recognised from the time when the first lighthouse was established, the Elder Brethren understand your communication to signify that the methods proposed by the writer of the letter are commended to this Board for consideration. These methods appear to be of two sorts: 1, That all fixed lights should be made to show, instead of a continuous light, certain dark dots and dashes known in telegraphy as the Morse Alphabet; and 2, That all colour for lighthouses should be abandoned except for showing dangers and channels and ports by red and white and green sectors.

“ As respects the first of these propositions it may interest the Committee of Lloyd's to learn that a somewhat similar idea was proposed as far back as 1851 by the late Professor Babbage, but that it did not then, and does not now, commend itself to this Board, and for this reason; that although they doubt not that to observers of trained intelligence, at short distances, and in circumstances of easy navigation, and on the comfortable deck of a well-found and highly-disciplined ship, long and short occultations may be accurately understood, *such niceties of distinction are too refined to be resorted to so long as broader and more marked distinctions which exist are not exhausted.*

“ Such broader distinctions may be described as (1) the

isolation of the seamark either on detached ocean-rocks, such as the Bishop or Eddystone, or on headlands remote from other shore lights, as St. Catherine's, Dungeness, or North Foreland ; and (2), the use of double lights, such as Lizard, Portland, South Foreland, and Whitby, which second class have the additional value of giving leads to clear subsidiary local dangers. If the fixed lights under the direct control of this Corporation be counted, but few will be found not included within one or other of these categories, and it happens, moreover, that in preparing for the work of the ensuing official year (1880-81), it had been determined (before the publication of the letter to which you refer) to make seven of this remanent more distinctive by occasional occultation ; but to occult them not by the system of the Morse Alphabet, which (as has been said) is held to be unnecessarily and dangerously refined for rough weather and uneducated men, but on a method broader in effect, so that he that runs may read, may read when he is running under conditions when it should be quite sufficient to expect him to note that the light winked, without having to consider whether such winks were long or short ones. The other suggestion for increased distinctiveness in the letter to which you refer is the disuse of colour except for local dangers ; and with the object not so much of distinguishing the official lights one from the other as from the navigating lights of steam vessels.

“ In the Trinity House system there are but few lights in which colour has been resorted to (except for these minor local purposes), and nearly all are made distinct from ships' lights by revolution, so that there would not appear to be much necessity for change on the ground of distinction in this particular. The Elder Brethren do not gather from your communication that the other points in the letter to which you allude are comprehended in the request of your Committee for this Board's consideration, but they would observe, with reference to the proposal to quicken the period



of revolving lights, that they find in the varied intervals of those lights distinctions that are very marked, that most of those distinctions, at all events, are necessary, that they have no belief that an ordinary navigator cannot use a flash occurring at less frequent intervals than a quarter of a minute for getting a reliable compass bearing; that these lights, by reason of their greatly increased intensity, are most valuable; that to increase their speed would involve either a dangerously short flash, or by its attenuation an undesirably weak one; and that the diminution in their variety would compel the more frequent resort to fixed lights, when even the most scholastic form of occultation would leave them as sea marks (by reason of their degraded power) *too* 'faint on the horizon' to be seen *at all*, however much the eye of the observer had 'refreshed its sensibility.' It being a photometric fact that at this moment the Start (revolving) is twenty-three times as powerful as the present (fixed) Eddystone. In making these observations the Elder Brethren have no wish to imply that the system they administer has yet arrived at perfection; it is one which, like many other things in England, has grown up more or less anomalously, and it is, moreover, one to which science has of late offered new resources with almost bewildering rapidity, but they trust, when addressing the Committee of Lloyd's, that it may be taken for granted that work in which Faraday delighted, and at which Tyndall now labours, is not likely to be neglected in the hands of sailors; nor would the Elder Brethren have it thought that they are above taking hints even from unfriendly criticism, whenever that criticism rises above fervid amateurship or contains suggestion of real value, although as they do not now propose to comment on the minor topics of the letter they have only, in conclusion, to assure your Committee of two things—

“(1.) That the lighthouse system is not in the crude state which the writer appears to imply, and

“(2.) That its present custodians are actuated by a very earnest desire yet further to simplify and improve it.

“ I am, &c.,

“(Signed)      ROBIN ALLEN.

“ The Secretary, Lloyd’s, E.C.”

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“ Committee of Lloyd’s to Trinity House,

“ Lloyd’s, E.C., 16th January, 1880.

“ Sir,—I am directed by the Committee of Lloyd’s to acknowledge the receipt of your letter of the 9th instant, strongly criticising the suggestions of Sir William Thomson as to distinctive lights being adopted in each lighthouse under your supervision.

“ The Committee of Lloyd’s do not consider it within their province to enter into controversy upon this subject, still less to define exactly how such an arrangement should be carried out, but they are glad to find that they are at one with the Elder Brethren in thinking that some distinctions more marked than those already existing would be useful. The Committee of Lloyd’s have no special interest in Sir William Thomson’s plan, and hardly feel themselves qualified to judge of the justice of your remarks as to that gentleman, but they have always understood that his inventions and improvements in electrical apparatus, the mariner’s compass, and the sounding machine, have been of great service to the community at large.

“ I am, &c.,

“(Signed)      H. M. HOZIER, Secretary.

“ Robin Allen, Esq., Secretary,

“ Trinity House, E.C.”

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OFFICIAL INQUIRIES WHERE  
Reported since

| Ship.                        | Casualty.  | Loss of Life. | Inquiry.                                    |
|------------------------------|--|---------------|---|
| <i>Othere</i> ...      ...   | Abandoned, 3rd April, 1880.                          | ...           | Middlesbro' :<br>Coleman :<br>10 May, 1880. |
| <i>North Carolina</i> ...    | Lost off the Coast of Bermuda, 31st December, 1879.  | ...           | Liverpool :<br>Raffles,<br>4th June, 1880.  |
| <i>Souvenir</i> ...      ... | Stranded on the Kentish Knock, 14th May, 1880.       | ...           | Greenwich :<br>Balguy,<br>7th June, 1880.   |
| <i>Douglas</i> ...      ...  | Wrecked on the Coast of New Jersey, 4th April, 1880. | ...           | Liverpool :<br>Raffles,<br>9th June, 1880.  |
| <i>Beignon, s.s....</i> ...  | Lost off Cape Finisterre, 19th May, 1880.            | ...           | Cardiff :<br>9th June, 1880.                |

SEA FOG ON THE COMPASS, AND THE BRITISH  
SAILOR IN PREFERENCE TO THE FOREIGNER.

AT our Monthly Meeting in April last, a paper was read before the Members of this Society, intended to prove to the satisfaction of all present the untenability of the theory of fog affecting the compass of an iron ship and being the cause of very many wrecks, to be accounted for by no other hypothesis. I need not call to the remembrance of any of those present on that occasion how that paper failed to prove anything of the sort. In the same paper strong exceptions were taken to my remarks in the April number of our Magazine, entitled, "The British Sailors in Preference to Foreigners." Here, again, the writer of the paper in question utterly fails to grasp my line of argu-



## CERTIFICATES HAVE BEEN DEALT WITH.

1st June, 1880.

| Nautical Assessors. | Finding of Court.                        | Decision  |
|---------------------|--|---|
| Beazley.<br>Ward.   | Prematurely abandoned.                   | Master's certificate suspended for 6 months. Lower grade granted.               |
| Wilson.<br>French.  | Careless navigation.                     | Master's certificate suspended for 6 months.                                    |
| Hight.<br>Forster.  | Default.                                 | Chief Mate's certificate as Master suspended for 3 months. Lower grade granted. |
| Wilson.<br>French.  | Neglect in navigation.                   | Master's certificate suspended for 3 months.                                    |
| Curling.<br>Ward.   | Vessel lost through careless navigation. | Master's certificate suspended for 3 months.                                    |

ment, accuses me of being personal, falls most egregiously into the same error, and stultifies himself most completely in first denying the various assertions I made in that paper, and then proving them true; and showing to anyone who carefully read the paper in question that the writer did not understand what he had been writing about, or that he was asserting (without seeing the contradiction) that my paper was replete with error, and then proving me right. Without discussion and hearing various opinions, there can be but little resulting information; but before attempting to prove any paper in our Magazine in error, I should be quite certain I understood the subject and was competent to the task. This little consideration the writer of that paper has completely ignored. I shall now proceed to reply, to analyse it, to point out his contradiction of his own words, and to show

the feebleness of the whole composition. I shall pass by all such expressions as these, "In my opinion," "I am at a loss to see," "I never heard of it," "It was unknown in my day," which expressions the writer curiously mistakes for facts, but state at once that there is not one lucid or well-put argument against the theory of fog affecting the compass of an iron ship. I have looked in vain for anything of the sort. The writer distinctly asserts that fog has no influence on the compass of an iron ship, but signally fails to prove his assertion. He asks, "Has not Captain Saxby failed to take into account the set of the tide as a reason why ships get on shore?" I reply, possibly he might; was the set of the tide known only to the writer of the paper in question? But as the effect of the tide in the English Channel, that its set duration and strength are well ascertained and always provided against by all navigating officers, it follows the tide is not the disturbing cause; we must look beyond it. The proof that the tide was not the cause of the thirty ships going out of their course is that they were all out of their position: surely all in command of those ships could not have made the same error and ignored the set of the tide. It is most absurd to say, "That captains in command of iron ships and steamers have so much anxiety already on their shoulders while navigating in narrow waters, it is unnecessary that this additional burden should be laid upon them." If the writer of that paper considers this an argument against the theory, I confidently assert no thinking man will consider it so. In the reign of Queen Elizabeth a treatise on navigation was published by her command; the author, in his preface, remarks, "That some people have been absurd enough to assert that the needle does not in all parts of the ocean point to the true north, but to westward of it in a greater or less degree according to the locality, which they call the variation of the compass, but that such an absurdity as this need not be taken into consideration or noted in so very

excellent an art as the art of navigation." It was ignored ; but variation of the needle did exist, and has been for a very long time thoroughly understood. The writer says, "Fog has no influence at all on the compass of an iron ship ; that the question was set at rest years ago ; that the question is one of such importance that it ought to be set at rest, and proposes a plan to test the accuracy of the theory." This is considerably mixed up, the contradiction here is too evident. I shall only say that it is not set at rest and is not likely to be by the paper in question. He continues to write as follows : "The compass has been the mariner's faithful friend for over 400 years, and if the mariner cannot trust implicitly to it, what is he to do ?" Well, if he goes on writing in this style we shall imagine that a nautical Rip Van Winkle is amongst us, one who has never heard of magnets used to correct the compass, of the Pelorus, of deviation cards. One who has never heard of the experiments that have been going on for some years to find something fluid or otherwise, that will so isolate and insulate the compass, that it will be unaffected by surrounding influences ; one who never heard of the trouble those who command these ships have with the compass, and what constant watching it demands ; one who has never heard of iron ships, masts, yards, and rigging ; how immensely all this has increased the captain's care and anxiety, and how continually, in spite of all care and attention, they find themselves out, much out of their true position in twenty-four hours' run in a fog, though for several preceding days, during fine weather, the position of the ship by observation, and that deduced from dead reckoning, have very closely agreed. If this is not fog affecting the compass of an iron ship, will the writer of that paper say what it is ? And what has produced the error ? What analogy for proving the question is there between a stone lighthouse on land, and an iron ship at sea ? How is this question to be solved without the aid of the fog theory ? Two ships or steamers



(iron) are coming up Channel in a fog, both steering as supposed the same course, both captains equally skilful men, well aware of the dangers of the navigation, making all and every allowance for all known difficulties ; one gets clear up, the other comes to grief. Have I not a right to say in such a case that fog has, from some unexplained and at present unknown cause, affected the compass in one ship to a greater extent than in the other. I am charged with bringing no proof of the truth of this theory. I can bring no other or greater proof than that of ships getting on shore in a fog, which in fine weather, and steering the same course, would have gone clear. The writer of the paper in question says, "he can give good proof that fog does not affect the compass in an iron ship." Listen, this is the proof: "That during his thirty-five years' experience in command in all parts of the world, he never found the fog affect his compass." Well, this is an assertion, and a true one as regards wooden ships, which are the only ones the writer has had any practical acquaintance with. The assertion that compasses would be equally affected in a wooden, as in an iron ship, is one that I did not expect to find advanced ; it shows such an extraordinary want of common sense not to see that the causes which exist for the fog influencing the compass in one ship are totally wanting in the other. I think, and I believe I shall carry with me all who read the paper in question, and this my reply, that I have most certainly shown that nothing has been written in that paper to disprove the theory, neither is there one solitary lucid proof or argument against it.

*British in preference to Foreign Sailors.* The writer of the paper in question says, "that my remarks on 'W. C. S.' are a little too severe, and that when one of our cloth gives us his ideas on nautical subjects, as well as write for the journal, a considerable latitude should be allowed him." Before proceeding, I must ask how many sides are there to a question in the writer's idea ? I have always been under

the impression that there were only two sides to a question ; but I find according to his opinion as stated in that paper, that there are innumerable sides. I was always taught that there might be innumerable shades of opinion, but that they must range on one of two sides divided by a common centre ; therefore it cannot be by hearing all sides, but all shades of opinion, that we arrive at the truth on any subject. I did not attack “ W. C. S. ” personally, and should be very sorry to make such an egregious blunder. I attacked the system of which he is the champion in our Magazine ; this the writer of that paper fails to see, and cannot discriminate between attacking a person or a system. He should be well aware that the questions asked in my paper upon this subject, and under the circumstances, are not personal, are not intended to be, and can never be considered personal, unless perverted from their true signification. Such questions do not attack the veracity, morality, sobriety, or conduct of any member of the British Merchant Service, and especially cannot have any personal allusion to “ W. C. S. ” The questions asked (and which have brought such a very unwise attack upon me, and caused the writer so sadly to commit himself, as to accuse me of stating a deliberate falsehood) tended only to prove that the more perfect a man is as a master mariner, the greater the obligation upon him to do all in his power to assist the British sailor, and to raise him from the low condition this system has reduced him to ; so that his attempted vindication of the British shipmaster from what he calls my attack upon his character, was uncalled for and out of place, as it had no existence but in his own imagination. I am certain there are very few who, on carefully reading my paper and following my line of argument, would have made such a blunder. Again, I cannot see where “ I have held up ‘ W. C. S. ’ in any of these capacities. What capacities ? I have mentioned none. It is strange that there are persons who can mistake words, and do not

know the difference between a capacity and a virtue ; it would be wise to first understand the meaning of a word and then use it. I should be sorry to curtail the right of any member of our Society to write in the Magazine, but I should wish to have the same liberty myself, and should be thankful to anyone that would point out any error to me, especially such as those named. I shall not pursue this part of the paper any further, only to remark that the writer has not understood me, that he has attacked me personally without the faintest conception of my meaning, denied that the system is doing the mischief that it is and may produce all the disastrous results indicated in that paper, and then admits all I say and calls it a momentous question to everyone.

*Better provisions for seamen on a long voyage.* Here the writer asks how is this to be accomplished ; that it cannot be done ; and then immediately goes on to show that it is gradually being done, that there is no comparison with the food now and that fifty years ago. Surely the writer of that paper should have seen the evident self-contradiction here. I do think it very bad taste in any man sneering at sailors for wanting a comfortable place to live in.

*Sleeping places for sailors.* Here again is the same contradiction of my statement in my paper in April on this subject, and immediately followed by an affirmation that this very reform is being gradually carried out. The writer gives his experience, proving how much need there was for this, and how much has been done, all of which I admit, but say that the improvement should be the rule not the exception.

*Broaching cargo.* I can see no excuse for this, no matter what may be the opportunity or temptation. My assertion that sailors are generally better men than in former years is contradicted and then proved true. I am accused of being too hard upon the old sailor of fifty years ago, in calling him drunken and profligate ; now mark the reason ; because all



classes at that period were so. It is a novel idea that profligacy and drunkenness is not profligacy and drunkenness when a whole nation indulged in these vices. This is a more sweeping assertion than I should have dared to make against a whole nation, and my own countrymen ; perhaps in such a case these vices become morality and sobriety.

In the paper in question, this remark occurs at the end : “ If the British sailor is looking to the British shipmaster to protect him against the foreigner, he is looking for help where it is not to be had.” Then follows this : “ That the sailor should demand an alteration in the law (I suppose the law admitting foreigners into British ships), and that the captains should go with them and back up the demand.” Well, if this is not the captain helping the sailor, what is it ? Captains, mates, and men must pull together, if they would do any good and better their position.

On page 218, of May number, there are these words : “ That my remarks in the April Magazine will give offence to some of our members, and will delight others, who are not too well disposed towards the master mariner. It will be read, no doubt, with much relish at the Amalgamated British Seamen’s Protection Society. I think it very much out of place in this journal, but the worst, or rather the best, of it is that it is not true as regards the master mariner ; I say, and I say from experience, that of the captains who command our ships at the present day trading abroad, 95 per cent. are good, moral men.” My reply to this is, that I do not fear giving offence to any member of our Society who will read that paper in the spirit in which it is written. I have brought no charge or said anything against master mariners, individually or collectively, therefore can give no cause for those who are not well inclined towards them (if any such persons exist) to take any delight in the subject as telling against them. I do not mean to keep back that which I consider the truth for fear that it should be appre-

ciated or not by the Seamen's Protection Society. The Committee of our Society did not condemn that paper in any shape, neither did the editor, they read it in the spirit in which it was written; had they condemned it as likely to do mischief I should have withdrawn it, therefore I think the writer has very much exceeded his right in condemning it and me in the very strong terms he has used, and has completely failed to understand my line of argument; and also I never should so far forget myself as to accuse any writer in our Magazine of stating a deliberate falsehood. The only reason I can see in defence of such conduct is that he has failed to grasp my meaning, and does not see the difference that exists between attacking a person or a system; he must see that he has contradicted me flatly, and then agreed in everything I have stated. It must be a wonder to all who read that paper, to see what an egregious error he was committing in supposing my remarks personal to "W. C. S.," how completely he has stultified himself, and so far forgotten good taste in accusing me of defaming the British shipmaster. I imagine few in the Merchant Service in command will be pleased at such an assumption, or feel flattered by his defence of their character, well knowing that they require no defence from such a charge (if made), that their well-known honesty, morality, and upright conduct is their best and surest defence, and, moreover, that I, who have been for many years advocating the cause of the British shipmaster to the utmost of my power, should now turn against him and accuse him of every vice is far too absurd for anyone who knows me to believe.

HENRY FAITHFULL.

[Our correspondents have evidently considerably misunderstood one another, but whilst desirous of affording all contributors a considerable latitude in writing papers for this journal, we think it undesirable that any more correspondence in this style should appear, and we therefore

notify our intention in future to expunge all which might be construed as personal. Both our correspondents are hard hitters, still we think it as well not to permit this or any such controversy to continue.—ED. *B. M. S.* 7.]

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## EXPLOSIONS OF COAL GAS ON BOARD SHIP.

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### OFFICIAL CAUTION.

THE results of recent inquiries indicate that the simple and efficacious measures for preventing explosions of coal gas, recommended by the Royal Commissioners appointed to inquire into the spontaneous combustion of coal in ships, are either insufficiently known to, or recklessly disregarded by, the persons chiefly interested in the safe carriage of coal by sea.

The attention of shipowners, shipmasters, colliery owners, coal brokers, underwriters, and others, is therefore directed to the conclusions arrived at by the Royal Commissioners, especially to their fifth recommendation, which is as follows:—

“5. That with a view to guard against explosion, free and continuous egress to the open air, independently of the hatchways, should be provided for the explosive gases by means of a system of surface ventilation, which would be effective in all circumstances of weather.”

Certificated masters and officers are especially warned that neglect on their part will, in the event of explosion, have to be brought to the notice of the Wreck Commissioner or of the Court investigating the case.

The Board of Trade also give notice that, as vessels laden with coal insufficiently or improperly ventilated, are dangerous to human life, it is their intention to prosecute those persons who in future send, or attempt to send, or who are parties to sending, or attempting to send, to sea, British



coal-laden ships which, on account of such insufficient or improper ventilation, are in such unseaworthy state that the life of any person is likely to be thereby endangered.

The offence is declared by the 4th Section of 39 & 40 Vict., ch. 80, to be a misdemeanour.

The Board of Trade also hereby give notice, that it is their intention to prosecute masters of British ships who knowingly take ships to sea in such unseaworthy state, which offence is also declared to be a misdemeanour by the same Section.

The Board of Trade also desire to draw the attention of parties concerned in this caution to the fact that misdemeanours under the above-named Section are not punishable under summary conviction.

The other conclusions of the Commissioners, to which the Board of Trade think it right to call the attention of those interested in the carriage of coal by sea, although not directly relating to the question of explosions of coal gas are, as follows, viz.:—

“ 2. That the breakage of coal in its transport from the pit to the ship's hold, the shipment of pyritic coal in a wet condition, and especially ventilation through the body of coal cargoes, conduce a spontaneous combustion even though the coal may not be unfit for conveyance on long voyages.”

“ 4. That when coal is being carried on long voyages the temperature in the various portions of the cargo should be tested periodically by thermometer and registered in the log.”

All persons concerned would do well to peruse carefully the following condensed reports of inquiries which have been held in cases of explosion of coal gas in ships during the last three years.

Copies of this Notice can be obtained at any Custom House, or Mercantile Marine Office, free of charge.

T. H. FARRER, *Secretary*.

THOMAS GRAY, *Assistant-Secretary*.

T H E  
BRITISH MERCHANT SERVICE  
JOURNAL.

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AUGUST, 1880.—VOL. II.—No. VIII.

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G R A I N I N B U L K .

*(Read before the Members of the Shipmasters' Society,  
29th July, 1880.)*

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THE question of carrying grain cargoes with safety is one on which the Shipmasters' Society, Committee, and members, must be prepared to speak out, with no uncertain tone, but plainly and strongly. It is a question that immediately concerns them; it is one of vital importance to the mercantile community, whether as shipowners or as merchants. It is to be regarded in three separate aspects, first, as regards the master, officers, and men: with them it is an affair of life or death, before which all other interests must hold a secondary place; then, as regards the shipowner, the increased cost of properly constructing (internally) a ship to carry grain in bulk; and, thirdly, the cost that may accrue to the merchant and to the public in having to put his grain into bags in preservation of the ship. Grain in bulk has been carried in former years from the Continental ports with very little shifting or loss to the ship or merchant. It is therefore necessary first to enquire what was the reason of this freedom from accident, and why cannot

grain be carried in bulk now as then ; there must be some cause. I think it will be found in this fact, that during the last thirty years we have made rapid strides in our Mercantile Marine ; the material, style of construction, and dimensions of ships have entirely altered, and render it imperatively necessary that the best material shall be used in building, that the fittest dimensions for all purposes shall be adopted, and that their internal arrangements shall be such as to render it, humanly speaking, impossible for grain in bulk to shift so as to in any degree endanger the safety of the ship and imperil the lives of those on board. To retrograde in anything is, to say the least, disagreeable, in some things impossible ; with ships it is the latter. We could not go back to the old wooden ship ; the material to build them is not to be procured. The old wooden vessel was in very few cases the equal of the modern iron ship of good material ; the first was liable to a deterioration that the other is not ; the iron ship is cheaper to build and less expensive to keep in order, and is a first-class ship when the wooden ship is only fit to be broken up ; the iron ship carries her cargo better than the wooden and takes more in proportion to her relative tonnage. The old ship was short, wide, and deep ; the new ship is long, narrow, and shallow, and to this may be attributed much of the present disastrous results with grain cargoes. There is a medium in this, as in all things, consequently the ship whose dimensions are between these two extremes is the best for all purposes.

Before going any further, it may be as well to inquire what has been the result during the last few years to ships carrying grain cargoes, and hear the opinions expressed by gentlemen competent to give advice upon the question.

Mr. FARRAR, Permanent Secretary to the Board of Trade, in his evidence before the Select Committee of the House of Commons appointed to inquire into the losses of Merchant Shipping since 1873, stated that the inquiries went to show



that the following grain ships had foundered or were missing with all hands on board :—

In 1873, 7 steamers and 30 sailing ships.

1874, 10        „        20        „

1875, 3        „        21        „

1876, 7        „        39        „

1877, 5        „        24        „

1878, 5        „        29        „

1879, 12        „        33        „

Of the total loss since 1875, 45 ships were laden in bulk, 28 in bags, 36 in bulk and bags, and 73 were unknown. That there was nothing in the returns to show whether these ships were insured or not; great difficulty had been experienced in obtaining such information. A great deal of valuable information was obtained from the investigations as conducted by the Wreck Commissioner.

Mr. PLIMSOLL, late M.P. for Derby, presented returns of the vessels foundered or missing, together with those lost from other causes, but not including cases of stranding or collision, in the year ending 1879, and showed that in

June, 1875    ...    ...    2,478 lives were lost.

1875-6    ...    ...    1,588        „

1876-7    ...    ...    2,311        „

1877-8    ...    ...    1,313        „

1878-9    ...    ...    1,443        „

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Total        ...    9,133

He then gave statistics as to the number of ships lost and inquiries held, showing that the proportion of inquiries to the number of vessels lost and missing was comparatively small. For instance, in the year 1879, eighty-nine vessels were missing with 1,099 men, and no inquiry whatsoever was held. He went on to say that the Board of Trade returns were not to be depended upon, for they only recognised as grain vessels those laden with grain exclusively. The

largest portion of the losses of which he gave particulars was owing to loading in bulk. Some vessels were overloaded, others were unseaworthy in themselves, and others ill-adapted for Atlantic voyages. They could not all be described as having been lost by carrying grain in bulk, but whatsoever danger there was, was immensely augmented by carrying grain in bulk. To carry grain in bags would reduce the quantity which it would be possible to carry, but this would give a blow to overloading. He was not wedded to bags as a means of carrying corn, but he simply asked the House of Commons to prescribe their use for one season, so that a comparison might be instituted between the losses in that season and those in the seasons which had gone before. He gave an instance in which a vessel had weathered a storm when she carried her grain in bags, and had subsequently foundered with a grain cargo in bulk. The use of a three-bushel bag for a year would only cost 4d., and as the ship would make eight trips to America and back in the year, three bushels could be brought over at the cost of a  $\frac{1}{2}$ d. per sack. As to the time used in loading, he had been informed that 66,000 bushels of Indian corn had been loaded in 30 hours. That loading in bulk, where it had not been the actual cause of vessels foundering, had been a contributing cause; in the case of vessels said to be overloaded, and which could have safely got to their destination if they had not been partly loaded in bulk. His objections were to loading in bulk without proper precautions against shifting.

Mr. W. DICKENSON, of Newcastle-upon-Tyne, owner of five vessels in the grain trade, stated that he had bought sufficient three-bushel bags to enable him to bring entire cargoes of grain from America in bags instead of bulk. The bags cost £600 per ship, which at first sight seemed a large sum, but on investigation turned out to be not a serious item. The bags would, he believed, last a year, and taking a voyage to average two or three months, this would give five voyages.

a-year, equal to a cost of £120 per voyage ; but on the other side, the saving in insurance must be considered, for the rate on grain carried in bulk was 30s. per cent., while on that shipped in bags was only 15s. per cent. ; there was also a saving on the insurance of the vessel herself, making altogether a saving of £1,100 per annum to be set against the £600 cost of the bags. What was more, there was a saving of many sailors' lives. The advantage to be gained by the shipowner who carried his grain in bags was, that there was no risk of the cargo shifting, causing often the loss of the ship ; the owner would be able to insure his ship at a lower rate. There would be no loss in freight from loss of weight in cargo delivered, no risk of pumps choked, and less expense for providing and fixing shifting boards and lashings. The merchant could insure his cargo at a lower premium, he would sustain no loss by short delivery, no risk of having his cargo mixed with other grain belonging to another merchant, and carried in same hold, and he would save expense for measuring and weighing the grain at port of delivery. Great danger arose from overloading ships, but he put the shifting of grain cargoes as a primary cause of serious danger, and overloading second ; grain sent over in bags would he thought arrive in a better condition than that brought over in bulk, because if there was any smell in a ship, it might be imparted to part of the grain in bulk, but would not affect grain in bags. The load-line of a ship should be fixed by the Board of Trade. Legislation as to the carriage of grain should include the Baltic and the Black Sea.

Captain LAW, representing the North of England Marine Assurance Association, said : He considered legislation with reference to steamers carrying grain unnecessary. He thought the general conduct and character of seamen had deteriorated very much of late years ; it was owing to blending firemen with seamen. The firemen came from a low



class, were without discipline, and were introducing an injurious leaven among sailors. He considered the regulations for maintaining discipline amongst these people very defective, and was very much in favour of amendment. The insurance societies were of opinion that vessels had been abandoned earlier than they should have been, owing to the bad discipline of firemen and others. His observations did not apply to line steamers. Sometimes bulk cargoes expanded instead of settling. Did not think that shifting boards should be carried more than two-thirds down. Shifting had very little to do with the losses that had occurred. He had seen the Board of Trade Returns on the subject of shifting cargoes, but he thought there were better opinions on these matters than those of the naval officers who made the Board of Trade inquiries. The Board of Trade inquiries made by admirals and others, who were no doubt very good sailors, but never sailed in a bulk-laden grain vessel, therefore had no practical knowledge. He would rather take the opinion of the Marine Insurance Association. His evidence applied to steamers and not to sailing ships. He thought the legislation of the present day went in a wrong direction so far as the discipline of steamers was concerned. A ship might go outside the bar and then the captain might find that part of his crew had left him, he would not have sufficient power to prevent it; his ship might drift and eventually be lost if bad weather came on. He had known a case of the kind. We have a worse class of men now than we had formerly. It is owing to the fact that men have been taken on board steamers from a very low class.

Mr. GLOVER, Chairman of the Chamber of Shipping, says: That grain in bulk occupies less space than grain in bags, consequently with the same number of tons weight on board the vessel entirely laden with bags would have more weight above her centre than if she had grain in bulk below with.

the adequate quantity of bags above, according to the Canadian practice, and therefore would be more tender, or, in other words, have less stability, and would more easily turn over. It would be deeply to be regretted if an effort to lessen loss increased the very cause from which most of the recent losses have happened.

Mr. ALLAN, of Glasgow, says, bulk grain is heavier than bagged, and serves to keep the centre of gravity of a laden ship low.

A shipowner writing to the *Times*, from Liverpool, dated 23rd February, says: The object Mr. Plimsoll has in view is a very good one, at the same time there are good reasons for doubting whether carrying grain in sacks instead of bulk will really lessen the losses of grain-laden ships, while there is no doubt at all, if the Bill passes, it will increase the cost of carrying grain, and thereby enhance the selling price of all grain consumed in this country. This fact, which deeply concerns the public, was fully admitted by Mr. Plimsoll in his speech at Derby a few weeks ago. He estimated the increased cost to the public at 4d. per ton per quarter, due directly to the exclusive use of sacks for the ocean voyage; in addition, however, there are other indirect causes which may double or treble Mr. Plimsoll's estimate, but taking Mr. Plimsoll's own statement of 4d. per quarter as the increased price, what does it mean? Our imports of grain foot up annually over 30 millions of quarters, and the quantity raised at home is about the same, or say an annual consumption of 60 millions. An increase of 4d. in the quarter then means a tax of one million sterling on the grain, which the people of this country must pay. In reality this tax may be two or three millions annually, for the following reasons:—The price of grain in this country depends mainly on the cost of the supply from America, where most of the grain shipped in bulk comes from. They use in America elaborate labour-saving machinery for handling

and loading grain. In the port of New York alone about 12 million quarters were handled and shipped in this way last year, with the aid of a few hundred men; if the grain must be put into sacks and so loaded, the labour-saving machinery will not be available, and quite an army of men must be employed in ports where labour is dear, at a cost which may, at a very moderate estimate, be put at another 4d. per quarter, while the slower process of hand-labour will certainly entail extra detention of the ships, which must be paid for by an additional 4d. per quarter on the average charge for freight. All these costs and charges the consumer must ultimately pay. The question concerns the public quite as much, if not more, than the shipowners, and it is for the public to see that real safety to life and property will be secured at the price which is proposed shall be paid. Nearly all the Atlantic lines of passenger steamers have, for a long series of years, carried grain in bulk regularly and at all seasons without any loss or even risk from that cause. Nearly all the ships lost in late years from the cause which Mr. Plimsoll seeks to prevent have been steamers with large water-ballast tanks. These vessels when laden with grain are top heavy, and very likely to topple over. To stow the grain in sacks instead of in bulk, raises the centre of weight and will make such vessels still more dangerous. This is a well-known fact. Grain in bulk is of course liable to shift if not properly stowed, but so is coal; and how is it that no proposal is made to stow coal in sacks? More attention is undoubtedly needed to be given to stowage of grain and other cargoes. Some good laws bearing on the subject were passed in Canada when Lord Dufferin was Governor of the Colony; but only a small supply of wheat comes from Canada. Its only grain port, Montreal, is a very exclusive port, and the grain shipments from there are becoming relatively less every year. If more stringent rules could be enforced in the United States ports where most of the grain



is shipped, there would be no necessity whatever to interfere with the shipment in bulk.

Mr. NATHANIEL DUNLOP, of Glasgow, firm of Messrs. J. & N. A. Allin, engaged in shipping trade steamers to America, and sailing ships to all parts of the world, says: With regard to grain shifting, his firm had carried grain in bulk for thirty years and they had never a case of shifting. Grain settled downwards but did not shift. Considered that the present Underwriters' Rules in New York gave all the necessary security. Had carried 200,000 tons of grain last year, and yet not a single case of shifting. Since the Plimsoll agitation had commenced, had written to every steam ship-owner whose vessel had been lost coming from New York, but had been unable to find a single tittle of evidence to support the belief that cases of shifting had occurred. Shifting of grain has nothing to do with the losses. He thought loading grain wholly in bags would be productive of great mischief. The Canadian method was the best, and was adopted at all the North American ports. To insist upon inspection when the vessel arrived at a Home port would cause great delay. Objected to the trade of the country being subjected to any kind of espionage. Had a horror of the Board of Trade having anything to do with mercantile operations that are themselves safe. Thought the safety of this country in the hands of well-conducted shipowners and builders. Does not think people are generally aware of how much the prosperity of the country hangs upon the shipping interests. In Glasgow, during the past twelve months, there have been about 170,000 tons of shipping ordered, owing to the stimulus given to trade through the increase in the demand for iron in America. Over £1,500,000 was spent in wages and £2,000,000 odd for materials.

There is a great amount of evidence given by shipowners and others upon this subject. Let us see what it amounts to.

First, we have the returns of the Board of Trade, as to the losses of grain-laden ships, given by Mr. Farrar. The return is no doubt correct in every essential particular as to the losses, and proves that so many ships have foundered. It is a sad and black catalogue of property destroyed and money lying at the bottom of the ocean ; of lives sacrificed and homes made desolate ; and goes far to condemn the present manner of loading ships with grain in bulk, in bag and bulk, and in bags only ; but as no member of any of the crews of these ships' companies have survived to tell the tale of the disaster how all on board struggled to the last against their too evident doom, it may be said that the cause alleged is only a presumptive cause and is likely to be something else other than the shifting of the grain ; but the fact remains the same—these ships were grain loaded and have foundered. In the absence of any proof to the contrary it may be assumed with some measure of truth, that the grain shifted and the ships turned over and went down with all on board. I have no means of ascertaining the total number of ships engaged in carrying grain last year, but it would be very much worth while that information should be obtained on this head, so that a comparison could be made between the number of the lost ships in the grain trade and those that arrived safely at their destination. Whether the ships were insured or not is not the question at issue and forms no element in it. There is no question but that the investigations held by the Wreck Commissioner upon ships that have foundered at sea with all hands, have produced some very positive and valuable information as to the causes that contributed to the disaster, and have enabled those sitting on the inquiries to come (at least in many cases) to a fair and decided opinion. As before observed, it can be but presumptive evidence in absence of positive proof, and this presumptive evidence we have a right to use in lieu of better, to know the exact value that may be attached to

the opinion that the grain shifted and caused the losses ; we must know all other causes that may produce the same result and the ratio of each to the losses. Mr. Farrar states the losses but does not hint at a cause, with the exception of saying these ships were grain loaded.

Any subject that Mr. Plimsoll takes up, he does so with all his heart, and with a simplicity and a self-demonstrative honesty of purpose that carries his hearers with him ; but at the same time, any proposal made by him contains elements of strength and weakness, strength from his unflinching determination to carry conviction into the mind of everyone that he alone is right upon the subject, and weakness from his eagerness to prove all he says. He sometimes makes statements which, when brought face to face with facts, do not bear him out to the extent he has advanced. Thus, when Mr. Plimsoll stated some months ago, before the Select Committee on the loading of ships with grain in bulk, that sixteen merchant ships had very recently been lost in the Bay of Biscay through being laden in bulk, facts prove that, though sixteen ships have really foundered or been wrecked at the time and in the locality mentioned, four ships had mixed cargoes, two were stranded, one sunk by collision, a fourth through breaking of the machinery, and in inquiries which have been made into the origin of the calamity as regards the other eight, prove it to be rather due to defects in structure, or the mode of stowing the grain, that is, want of ordinary precaution, and not to the fact that the grain has been stowed in bulk. But even in error as Mr. Plimsoll is in this statement, yet he brings forward such facts in support of his Bill to peremptorily forbid the loading of grain in bulk without proper precautions, that all acquainted or not with the subject must say he is right in this, and the sooner the practice is prohibited the better. The appalling fact stands out clear, as Mr. Plimsoll puts it, that from 1875 to 1879, the lives of 9,133 sailors have been sacrificed. That many of



these lives would have passed away from other and from natural causes is no argument against the fact, they have been lost in ships unseaworthy, from one or the other following causes: faulty dimensions, faulty material, faulty construction, and improper loading and stowage.

Captain LAW is of opinion that shifting has very little to do with the losses, but lays much blame on the seamen. The seamen do not as a rule stow the cargo; generally they have nothing to do with the stowage. That many steamers might have been saved from foundering is very probable, but the fault lies not with the seamen, but with those who send a vessel to sea so short-handed that once over on her beam ends there is nothing for the crew to do but get into the boats as fast as possible. I assert, and without fear of contradiction, that however able a modern ship's crew may be to handle her in fine weather, they are utterly unable to do so upon a sudden emergency, and consequently they are not to be blamed for leaving a sinking ship. It is the only thing they can do. I am certain that no British sailor, captain, mate, or crew ever left a ship until all hope was gone, because, if for no other reason, as long as there is a prospect of saving the ship, the ship is very much safer than a small boat. That the British sailor is not what he ought to be is very probable. Is anyone just what he ought to be? Let those who live by his exertions try and make him what he should be; raise him to better things; give those among them who are good men, and there are thousands, the preference over foreigners, so that those that are not what they should be may see that it will be to their advantage in every way to follow the good example set them by many of their brother sailors. I am quite of Captain LAW's opinion, and most cordially agree with him, and I may say that he only utters the often-expressed opinion of everyone in and connected with the British Merchant Service, that the men who sit upon an inquiry as to wreck, foundering, or damage should

be men taken from the Merchant Service, as they are the only men who are competent from past experience to come to a right decision.

Mr. GLOVER and Mr. ALLAN are against carrying grain in bags, as it would raise the centre of gravity too high, and thereby tend to destroy the stability of the ship. In a ship with large water-ballast tanks in the bottom, and very little beam compared with her length, there is no doubt this is quite true, but with a well-built, properly-proportioned ship it is not so, because I never heard of a ship that would carry herself full of wheat, or anything that is twenty-two hundred-weight to the ton. It follows then that carrying grain in bags in a ship of the kind mentioned is not only not dangerous but highly beneficial, as there is an element of danger that no one has as yet taken into consideration, namely, too great stability, which grain in bags will tend to neutralize. A ship can and will tear herself to pieces in a heavy gale of wind by being too stiff, which tendency, with a bag cargo, can be rectified at sea; but if a ship gets on her beam ends in a gale of wind from shifting of the cargo in bulk, I can see no possibility of righting her from the nature of the cargo. All grain cargoes, whether in bags or bulk, will settle towards the lowest point of depression; therefore it is usual to keep the ends clear, and with bags to bring the cargo up towards the centre of the ship, in form of a pyramid with a flat top, in fact, to reduce the too great tendency to over-stability. I have heard of a ship that capsized, loaded with coal from loss of stability; she must have been a badly-designed ship and quite full. But as far as my experience goes, it is impossible to fill a ship with grain; she cannot capsize from the same cause, but does so from the cargo shifting. When a cargo of grain in bulk gets adrift in a gale of wind, it is caused by having been too hastily taken in, by breaking away of the shifting boards, or because the shifting-boards are not

carried down to the bottom of the hold ; it is folly to suppose that because the top of the cargo is secured, that everything below is safe. The cargo settles and leaves a space from one foot to three between the bags on the top and the deck ; the ship gets into a gale of wind, the cargo begins to settle over to leeward, a sea rolls under the ship and causes a heavy lurch, the cargo begins to go over and up towards the under side of the deck, many such lurches, and the ship is on her beam ends. The wheat, like water, will find its level, runs under the shifting-boards and over to leeward, or the shifting-boards laid against the stanchions and depending entirely for their security on the small bolts securing the top and bottom of the stanchion, the strain is too much with the weight of grain lying against them, and everything gives way and falls over to leeward together ; these fastenings were never intended to bear any strain whatever, but only to keep the stanchions in their place ; in a very short time the ship becomes unmanageable and founders. I have heard of many ships that from their model a cargo of grain in bags, unless properly stowed, would render unseaworthy from too great stability, but I never heard of a ship that would carry herself full of grain of the density named. A ship will not generally carry herself full of rice in bags, even when half the husk is on the rice. From San Francisco all grain is shipped in bags, and if the cargo shifts the fault is bad stowage ; the shifting-boards and stanchions have given way ; the bags are pitched into the ship as fast as possible, and not stowed with care that such cargo demands ; the paramount idea in the mind of the stevedore is to get the ship loaded as fast as possible. I expect it is very much the same in New York, loading in bulk from an elevator, the grain having no time allowed to settle from its own inherent weight. It appears on carefully reading the evidence so far as it has been given before the Select Committee of the House of Commons, that the losses of grain-loaded ships have not been caused by the shifting of



the cargo ; then what has been the cause ? Grain will shift unless properly stowed and secured, therefore in absence of proof to the contrary, the surmise that shifting did take place and cause the loss of the ship and all on board, is only a logical deduction. We also have two extremes of opinion as regards the expense of putting grain in bags. First, that it will be a positive gain to the owner of the ship of £400 per annum in voyages to and from the Atlantic ports. And the second, that it will cost the country four millions sterling per annum, and that even this large sum might be considerably increased, and must eventually be paid by the consumer.

It having been proved that grain cannot be carried in bulk without shifting unless proper precautions are used ; that to use bags would cause the cost of the grain to be very materially increased, and that though all grain from San Francisco is by custom of the port shipped in bags, yet in ports nearer England the reverse is the rule ; that the present system of shifting boards placed against the stanchions does not give that immunity from accident that is required ; that the stowage of grain in bulk and in bags is faulty and reckless in the extreme from its rapidity ; and lastly, but not least, that annually there are lost many hundreds of valuable lives and great destruction of property, over which we undoubtedly have control ; that the reason may be found in the altered size, length, depth, and breadth of the present merchant ship differing entirely from the old wooden ship ; that many ships of the present day are from their construction and dimensions totally unfit to carry a grain cargo ; that when loaded they are little better at sea than half-tide rocks ; that the crews are far too small even in ordinary bad weather, and worn-out and demoralized before the emergency arises ; that the Plimsoll-mark intended to prevent overloading does not do so, because it can be and is shifted up at the caprice of an individual—(see late inquiry into the foundering of the

steamer *Marlborough* with all on board). Ships have foundered with other cargoes than grain and from other causes than shifting of the cargo. It is well known that almost any cargo will shift if not properly stowed. The question arises, is it not possible so to construct a ship of good dimensions internally that grain in bulk may be carried from any part of the world under any circumstances in any gale of wind with, humanly speaking, perfect safety? There is no doubt it can be done and at a very moderate cost during the building, and do away with all expense for shifting boards and bags, and not materially add to the weight of iron used in the construction. All iron ships should be built with an iron bulkhead from stem to stern, from keel to upper deck, and the hold again divided by three, five, or seven cross-bulkheads, according to the ship's length, sufficiently strong to stand any weight that might be brought against them. This would render it impossible for all the grain to shift, if any, and enable it to be trimmed up in the centre to prevent too great stability; and in case of collision would be the means at least of giving time to get the boats out and provisioned, if not saving the ship. It is a matter that concerns the lives of sailors, and in which no monetary consideration should be allowed to enter; this plan would not materially interfere with the taking in a general cargo. That ships will founder, will come into collision, will be wrecked is certain. Our duty is to minimise these disasters. It appears the owner would in very few years recoup himself in the extra expense, by the very much lower rate of insurance upon a ship so constructed internally; there being so much greater safety in such a method than in any other, and great benefit to the public by not increasing the price of wheat, and the saving of many lives.

HENRY FAITHFULL.

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SINGAPORE ROCK, K ISLANDS AND OUTLYING  
DANGERS, ROCKS OFF CAPE CONWAY, AND  
REEFS IN REPULSE BAY.

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[The following extract is published by the Department of Ports and Harbours of Queensland, and refers to the survey reported to be in progress in our number for June.—ED. *B.M.S.*.]

“SINGAPORE ROCK.—This danger, which is of very small extent, uncovers at ordinary spring tides, and lies half-a-mile south of the west point L. 1 Isles.

“There are from 9 to 18 fathoms close to.

“CLEARING MARK.—Linné Peak, seen through the passage or gap between M. Isles on a N.W.  $\frac{1}{4}$  N. bearing, leads two-thirds of a mile outside Singapore Rock.

“K 1 ISLE (PEAK) AND OUTLYING DANGERS.—East  $1\frac{3}{4}$  miles from K 1 Island lies a rock 3 feet above high-water springs, and nearly in the passage between these is another rock, uncovering at low-water neaps.

“This latter danger bears E. by S.  $\frac{1}{2}$  S.,  $1\frac{1}{4}$  miles from the Peak.

“There are 17 to 28 fathoms round these dangers.

“A dangerous reef, nearly 4 miles in circumference, with 3 feet of water on its shallowest parts, and 21 to 29 fathoms close around, exists 16 miles E.  $\frac{1}{2}$  N. from K 1 Island.

“E. by N.  $\frac{1}{4}$  N.,  $18\frac{1}{2}$  miles from K 1 Island is another dangerous reef about 3 cables in extent, which covers at a quarter flood, with 20 to 30 fathoms within a cable's length. The detached reef shown on the chart, bearing E. by N.  $\frac{3}{4}$  N. 21 miles from K 1 Island, may possibly be intended for this latter danger.

“The shoal shown as sand and rocks on the Admiralty charts, bearing E. by N., distant  $12\frac{1}{4}$  miles from K Island,



was found to be a low sandy cay of small extent, covering at high-water neaps, forming the northern edge of a coral reef 1 mile in circumference. It bears E.  $\frac{1}{4}$  N.,  $9\frac{3}{4}$  miles from K Island; the old position being 3 miles too far to the N.E. There are from 25 to 30 fathoms close to the edge of this reef.

“K  $4\frac{1}{2}$  ISLAND, about 2 cables in extent and 93 feet high, with a few bushes on the summit, was found to be 1 mile E.N.E. of the position assigned to it on the charts. It bears E.N.E. distant  $9\frac{1}{2}$  miles from K Island.

“This islet lies at the western edge of a large circling coral reef, covering at a quarter flood, 6 miles in circumference, the north extreme of which is  $1\frac{1}{2}$  mile north of the islet. On the same reef, and near the western edge,  $\frac{3}{4}$  of a mile north of K  $4\frac{1}{2}$  Islet, is a low bushy islet not shown on the chart. It is fronted by a white sandy beach.

K 4 ISLAND is less than a quarter of a mile in extent, and bears N.E.  $\frac{1}{4}$  N., distant  $9\frac{1}{2}$  miles from K Island.

“This position is 1 mile south of that shown on the present charts. The island is 102 feet high, with a few pandanus trees on the highest part; a sand-spit covering at high-water extends a quarter of a mile west of it. This island is surrounded by a coral reef upwards of a mile in extent, with 17 to 28 fathoms at a cable's distance.

“The two sandbanks shown on the chart bearing E.N.E.  $6\frac{1}{2}$  miles, and N.E. by N.  $7\frac{1}{2}$  miles respectively from K Island, do not exist, there being 27 to 29 fathoms on the positions assigned to them. The foul ground shown in the charts as extending N.W.  $1\frac{1}{2}$  miles from K Island is also an error, as the ledge only extends half-a-mile to the N.W. side of that Island, the N.E. side being steep to.

“K 2 (HUMMOCKY) is steep to all round, and the encircling dangers shown on the published charts do not exist.

“THREE ROCKS are also steep to, and the reef reported half-a-mile off their N.W. extreme does not exist. There are from 13 to 23 fathoms close round these rocks. The dry

sand marked on the chart as having been seen by Captain Flinders in 1802 is  $6\frac{1}{2}$  miles W.S.W. of its true position.

“It covers at half flood, and lies at the northern ledge of a coral reef half-a-mile in extent, with from 16 to 29 fathoms close to.

“CAPE CONWAY AND REPULSE BAY.—Half-a-mile E.N.E. of Cape Conway, and 4 cables S.E. of the rock to the N.E. of the Cape, is a small rock awash at low-water neaps, with 11 and 12 fathoms close to the outer edge.

“A quarter of a mile south of the Cape is another detached rock covering at half-flood. One and a-half miles south of Cape Conway, close to soundings of 15 fathoms on the chart, is a shoal of 3 fathoms; its vicinity is marked by strong tide rips.

“At a distance of five miles N.W. of North Repulse Island, and somewhat less than a mile from the shore, are two reefs covering at half flood, with from three to 5 fathoms close to.’”

## LIGHTHOUSE CHARACTERISTICS.

“No. 1.—Sir WILLIAM THOMSON to Committee of Lloyd’s.

“The University, Glasgow, 10th July, 1880.

“SIR,—The answer of the Elder Brethren of the Trinity House to your letter of the 18th December, 1879, calling attention to my suggestions in respect to the distinction of lighthouses, which has been published in the Parliamentary Paper on Lighthouse Characteristics, printed by Order of the House of Commons, 22nd June, 1880, contains some strictures on my suggestions, and it seems proper that I should offer you some remarks in reply.

“In that letter the Elder Brethren desiring ‘that some pains should be taken to explain to the important maritime

interests represented by Lloyd's Committee the *rationale* of the matter as viewed from an official standpoint,' say 'that although they doubt not that to observers of trained intelligence at short distances, and in circumstances of easy navigation, and on the comfortable deck of a well-found and highly-disciplined ship, long and short occultations may be accurately understood, *such niceties of distinction are too refined to be resorted to so long as broader and more marked distinctions which exist are not exhausted.*' As a practical answer to this, take the following letter from the Secretary of the Belfast Harbour Board :—

“ ‘ Harbour Office, Belfast, 15th April, 1880. ’

“ ‘ Dear Sir,—In reply to your letter of the 8th instant, addressed to Mr. Harland, Chairman of the Belfast Harbour Commissioners, relative to the light exhibited on Holywood Bank in this harbour, I beg to inform you that from all the reports received by the Commissioners from masters of vessels frequenting the port, they considered that the light is a very useful one for vessels making the harbour, is not at all likely to be mistaken for any other light, and is easily and clearly distinguished even in somewhat thick weather.

“ ‘ Yours, &c.,

(Signed) “ ‘ W. THOMPSON, *Secretary.*

“ ‘ Sir William Thomson.’

“ The perfect success of the dot-dash system in the Holywood Bank Light, the first to which it was applied, and the equally satisfactory results in the cases of the Gravel Point Light, Greenock (dot-dot), and the Craigmore Pier Light, Rothesay Bay (long-short-long-short), show that there is no good foundation for the Elder Brethren's apprehensions that long and short occultations could only be accurately understood in circumstances of easy navigation, and on the comfortable deck of a well-found and highly-disciplined ship. And now what are the broader and more marked distinctions



to be exhausted before the system of long and short occultations should be resorted to? 'Such broader distinctions may be described as (1) the isolation of the seamark either in detached ocean rocks, such as the Bishop or Eddystone, or on headlands remote from other shore lights, as St. Catherine's, Dungeness, or North Foreland, and (2) the use of double lights, such as Lizard, Portland, South Foreland, and Whitby, which second class have the additional value of giving leads to clear subsidiary local dangers.' When the Bishop or the Eddystone is first descried in hazy weather, how can either be known to be what it is, and not a steamer's masthead light? Every one who has the slightest experience of the sea knows that the doubt in such cases does very frequently last for many precious minutes. Considering the dangers all round of steam and sailing navigation on our coasts in foggy weather, uncertainties of even a few minutes duration are the most frequent sources of disaster, whether by collision or by running on rocks. It will hardly be maintained by the most determined opponent of my suggestions that a couple of short eclipses, like those of the Gravel Point Light, or a long-short-long-short, like those of the Craigmore Pier Light, given every quarter minute, either to the Eddystone or to the Bishop Light, without disturbing its main character as a fixed light, or diminishing the ease of picking it up, or of taking its compass bearings, would be 'too subtle a distinction' for letting it be known to sailors of all classes to be what it is, as soon as it has been seen for a quarter of a minute.

"As to the last of the isolated fixed lights, the North Foreland referred to by the Elder Brethren in their letter to Lloyd's Committee of the 9th of January, 1880, as needing no distinction, it seems to have been forgotten that in their letter to the Board of Trade of 4th November, 1879, they had intimated their determination to confer greater distinctness upon it by making it an occulting light.

“ Respecting my suggestion that colour (red or green) never should be used in a fixed light undistinguished by occultations, and that with occultations colour could only be used in sectors for marking dangers or channels, the Elder Brethren say, ‘ In the Trinity House system there are but few lights in which colour has been resorted to (except for these minor local purposes), and nearly all are made distinct from ships’ lights by revolution, so that there would not appear to be much necessity for change on the ground of distinction in this particular.’

“ There are, however, a few very important coloured fixed lights on the British coasts, showing far out to sea, which do seem very urgently to require distinction to prevent their being mistaken for ships’ side-lights, as, for instance, the Needles Light, which shows red 9 miles out to sea through 12 points of the compass southwards, and through 11 points of the compass in the direction of Christ Church Bay. On the Scottish coast the Sanda Light, on Ship Rock, a little south of the Mull of Cantire, a fixed red light, visible in all directions seawards to the distance of 18 miles in clear weather, is a case of similar urgency. And another case of much greater urgency is the light-vessel on the Lucifer Shoals, off the Irish coast, carrying a fixed red light visible 8 miles, which must be a frequent source of perplexity and dangerous doubt, if not of disastrous mistake, to ships navigating the Irish Channel. A single short occultation, or still better as more immediately and surely distinguishable, two short eclipses given to each of these lights, would render it unmistakable, and would certainly much enhance its value as a distinct and safe guide, and in the cases of Sanda and the Lucifer Shoals, it would render colour unnecessary, and so save half the consumption of oil or double the power of the light.

“ With respect to my proposal to greatly shorten the period of revolving lights, the Elder Brethren remark, ‘ that

they find in the varied intervals of those lights distinctions that are very marked; that most of these distinctions, at all events, are necessary.' To this it is to be answered that the distinction between 20 seconds and 30 seconds, between 30 seconds and 45 seconds, and between 45 seconds and a minute, are not practically discoverable without the use of a watch with a seconds-hand, and are therefore almost valueless for practical purposes at sea. Further, the imperfect time-keeping so prevalent among revolving and intermittent lights all over the world, hitherto absolutely annuls all such fine distinctions.

“Hitherto the exception has been to find a varying light which is correct within 10 per cent. of its professed period. For example, the Rathlin Light, off the north-west of Ireland, I observed on the night of the 6th of July, to be giving its eclipses with perfect satisfactory regularity, but at the rate of one every 52 seconds, instead of one per minute, its professed rate. This error of eight seconds in the period, although of no practical importance in respect to its distinction as a minute intermittent light, would annul the distinction between the minute period and the 45 seconds period, both of which are to be found in the List of Lights of the British Islands. The practically valuable periods of our ordinary revolving lights are half a minute, one minute, and two minutes, but they are all much too long. My proposal is that the rapidity of each should be increased sixfold; by this the distinction, which the Elder Brethren point out to be necessary, is not lost, and the periods become five seconds, 10 seconds, and 20 seconds. Taking the case of the Start, the Elder Brethren object to this shortening of its period that its flash would be either dangerously short or undesirably weakened by attenuation. Excluding the idea of attenuation, the flash would in fact be reduced from six seconds to one second, and a flash of one second occurring every 10 seconds would almost certainly be more easily picked up and more



easily used in respect to compass bearings than a flash of six seconds occurring only every minute. Experiment and observation are, however, needed to answer satisfactorily the question thus raised.

"In conclusion, I regret greatly to see that the Elder Brethren find anything in my letter to the *Times* which seemed to them like 'unfriendly criticism,' and I must ask you to assure them that desire to promote, if even in the slightest degree, improvements that seemed to me desirable in the interests of navigation, has been my sole motive in the reiterated remarks and suggestions which I have made on the subject of distinctions of lighthouses since I first called attention to it at the meeting of the British Association at Brighton in 1872, and that I yield to none in admiration of the lighthouses of the British Islands, and in gratitude to their custodians for the benefits which the world has derived from their labours.

"I remain, &c.,

(Signed)      "WILLIAM THOMPSON.

"The Secretary of Lloyd's Committee,

"London, E.C."

## FOUNDERING OF THE "CERWYN." REHEARING.

THE *Cerwyn*, a British steamship, was lost in March last off Ushant, on a voyage from Bilbao to Newport (Monmouth). At the Board of Trade Inquiry, held at Falmouth, in April, the finding of the Court was as follows:—"That the casualty was caused by a serious error in the ship's reckoning which might have arisen either from an

extraordinary and unknown current or from an easterly deviation of the compass, which was not allowed for or discovered by the master. The Court acquitted him from any fault, and complimented him on his gallantry in endeavouring to save the lives of her crew."

In the Annexe on the Wreck and Official Report on 20th May, it is further stated:—"The Court having carefully inquired into the circumstances attending the above mentioned casualty, finds, for the reasons stated, that the casualty was caused by a serious error in the ship's reckoning, which may have arisen either from an extraordinary and unknown current or from an easterly deviation of the compass which was not allowed for or discovered by the master, and as he steered by the deviation card, and had no means of testing its correctness, the Court does not find him in default."

The Board of Trade considering the decision mischievous in the interests of the British Merchant Service, ordered the case to be reheard at Westminster, on 19th July. The Commissioner, in giving judgment, said "that the *Cerwyn* was lost by taking a course too far to eastward. The Court found that although the best appliances might not have been on board, still the master might easily have ascertained what was the deviation of the compass, and he did not steer a proper course. That on the voyage out and home he only had the opportunity to make one observation which the Wreck Commissioner thought a very improbable statement. It was the duty of the master to take every opportunity to correct his compasses, &c. That the master was to blame for not using the lead after he had sighted the rocks and before having again laid her course to the north. That the loss of the vessel could not be attributed to what was called an extraordinary and unknown current. It was perfectly well known to the master that it was full moon, that the tides were stronger than at any other time, and if he had been rather better educated

he would have known the moon was in her perigee, and that the tides were stronger than usual. As to whether the loss was due to easterly deviation of the compass, that was not known or allowed for by the master; it might have been so, but they failed to think that the master was not to blame. They thought he was to blame for not having, after he ascertained he had been carried to the east, taken those measures necessary to ascertain her correct position before laying a course to the north."

The Wreck Commissioner then finished by a small summing-up on his own account, in which, after putting the blame entirely and strongly on the master, he says, "In our opinion, the master is very lucky, for had he originally been brought before us his certificate would certainly have been dealt with, and very severely too," &c., &c.

In the *Times* of the 20th July, the Commissioner, in giving judgment, attributes the loss of the *Cerwyn* to the master taking a course too much to eastward, &c., &c., and concludes by saying that "they thought the master was to blame for not having, after he ascertained he had been carried to the east, taken those measures necessary to ascertain her correct position before laying a course to the north."

That the Board of Trade should, at its discretion, avail itself of the provisions of the Merchant Shipping Act of 1879, as well as the master, is right enough, but, at the same time, one naturally looks at the construction of the Court, and finds that in this particular case there is a remarkable difference; in the first the Assessors are two, both men from the Merchant Service; in the second that the Assessors are three, two gentlemen who have served in the Royal Navy, and one in the Merchant Service. In looking for a result in these cases of appeal, it is to be expected that it is to be found in the finding of the last Court, or else why appeal? But when the



two Courts are in such complete and thorough contradiction, it is only natural and reasonable to say that the first Court is as right in its conclusions as the second. If such absolute contradiction is to be the only result of appeals of this kind, it will tend to confirm the Merchant Service in the idea that there is a foregone conclusion against, and a determination to decide unfavourably to the master in the Court at Westminster. One of the two decisions must be wrong. From the judgment delivered there is no reconciling them; they are as opposite as light and darkness. But as no one who is acquainted with the two gentlemen who acted as Nautical Assessors at Falmouth on that occasion, will doubt their ability to decide in such a case, and being merchant captains themselves, and knowing all the difficulties that surround a man in that position, we venture to say that all the members of the Service will attach far more importance to, and believe in the finding of the Court there very much more than they will to the finding of the one in Westminster. In the first Court the master of the ship is exonerated from all blame and highly complimented for his efforts to save life. In the second, all the blame is thrown upon him; he is accused of having lost the lives of those on board, and, in fact, in behaving in every way unbecoming a man in his position, and a statement is made as to what would have been done with him had the first trial been held at Westminster. There is no medium line, consequently the thing remains where it was. There is not a particle more evidence given on one trial than on the other, there is no pretence made of any further evidence, so that we see that from the same evidence two Courts come to a totally opposite conclusion. The only and the natural deduction, and the only way to account for this direct contradiction is the construction of the two Courts. It is worthy the attention of all nautical men. It was understood that the new clauses in the Merchant Shipping Act provided that in all cases such as this,

there should be two assessors taken from the Mercantile Marine.

The Court at Falmouth says that the casualty occurred from an error in the compass that the master did not discover, and further adds that he had no means of discovering it. The Court at Westminster say it is nothing of the sort, that he ought to have known, although the Court admits that the best appliances were not on board. If in the interest of the service this rehearing was ordered, why is it not stated clearly and fully by the Court at Westminster what and how many are the appliances required to test the accuracy of the compass. Such information would have been of immense value to the service, as there may be very great differences of opinion upon the subject among the masters. Had the oracle spoken decisively, it would no doubt have been a great benefit; but like the Delphian voice in ancient times it has left everything in doubt, nothing clear. The master had no means of correcting his compass, but he is reprimanded for not doing it. Here we think both Courts lost a chance of putting it plainly what means a man ought to have for doing so. This information is entirely omitted and does not seem to have been considered of any moment whatever, consequently the master should not be blamed for that which he could not do, and it is not thought necessary that he should carry with him anything to enable him to do it. The masters are then advised as to the necessity of taking every precaution of correcting their compasses. The Nautical Assessors at Falmouth having come to the conclusion that the master had no means of verifying his standard compass, perhaps it would be as well that the Court at Westminster should inform them how in that case the deviation might have been discovered, and clearly point out the means that should have been used. Such information would be much to their advantage on any future trial; it appears that in this case the most important information is

wanting. That there was an omission on the part of the master, of which little if any notice has been taken by either Court, is quite sufficient in itself to show what was the cause of accident, and would have been enough in itself, without any contributory cause, to prove the loss of the ship. It is only another and a very strong proof that no reliance for any length of time should be placed in any adjustment of a compass, but that the card of deviation should be carefully tested every voyage, at home, and on every occasion at sea and in port. The assertion of the master that he had only one observation from the time of his leaving England until the wreck is worthy of belief, as at that season of the year the sun is obscured for many days at a time, and often when visible the horizon is so indefinite as to render any observation of little practical value, and at sea without the sun, moon, or stars it is impossible to find the deviation of the compass. On shore the well-known compass bearing of two stationary objects answer the same end. If the Court at Westminster had stated how and in what manner the error of the compass, in the case in question, could have been ascertained it would have been of immense benefit to the Nautical Assessors who did not see, and to the master mariners who do not see it; every one in command would be glad to know from the Wreck Commissioner the very easy method of finding the deviation in absence of all usual and at present known means.

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OFFICIAL INQUIRIES WHERE  
Reported since

| Ship.                        | Casualty.  | Loss of Life. | Inquiry.   |
|------------------------------|--|---------------|--|
| <i>Gondolier</i> ... ..      | Wrecked at Sable Island, on 3rd June, 1880.                        | ...           | Halifax :<br>Capt. Scott, R.N.<br>25th June, 1880.                   |
| <i>Rosland</i> ... ..        | Stranded in Queenstown Harbour, 3rd June, 1880.                    | ...           | Liverpool :<br>Raffles,<br>2nd July, 1880.                           |
| <i>Ilen</i> , s.s. ... ..    | Wrecked off La Hague Lighthouse, 18th June, 1880.                  | ...           | Westminster :<br>Rothery, Wreck<br>Commissioner,<br>20th July, 1880. |
| <i>Senegal</i> , s.s. ... .. | Stranded half-a-mile E. of Grando Point, 12th May, 1880.           | 1             | Liverpool :<br>Mansfield,<br>21st July, 1880.                        |
| <i>Francis Drake</i> ... ..  | Lost near Agger, West Coast of Jutland, 21st May, 1880.            | ...           | Westminster :<br>Rothery, Wreck<br>Commissioner,<br>5th July, 1880.  |
| <i>Andean</i> , s.s. ... ..  | Stranded on the Mangre Cay Reef, British Honduras, 5th June, 1880. | ...           | Belize :<br>Police Magistrate,<br>16th June, 1880.                   |

THE ROYAL NAVAL RESERVE.

(From the *London Gazette*.)

“ At the Court at Windsor, the 28th of June, 1880.  
Present: The Queen’s Most Excellent Majesty in Council.

“ Whereas there was this day read at the Board a memorial from the Right Honourable the Lords Commissioners of the Admiralty, dated the 19th of June, 1880, in the words and figures following, viz.:—‘ Whereas your

## CERTIFICATES HAVE BEEN DEALT WITH.

1st July, 1880.

| Nautical Assessors.               | Finding of Court.                                    | Decision.  |
|-----------------------------------|--|--|
|                                   | Neglect to use the lead.                             | Master's certificate suspended for 6 months.                             |
| Wilson.<br>French.                | Negligent navigation.                                | Master's certificate suspended for 3 months. One of lower grade granted. |
| Curling.<br>Vaux.                 | Great negligence.                                    | Master's certificate suspended for 3 months.                             |
| White, R.N.<br>Wilson.<br>French. | Chief officer in default.                            | Certificate suspended 3 months. Lower grade granted.                     |
| Parfitt.<br>Anderson.             | Vessel not navigated with seamanlike care and skill. | Master's certificate suspended for 12 months. Lower grade granted.       |
| Shekyls.<br>Biddle.               | Negligent navigation.                                | Master's certificate suspended for 6 months.                             |

Majesty was graciously pleased by your Order in Council of 15th October, 1872, to establish the rank of Midshipman in the Royal Naval Reserve, and whereas it has in our opinion become advisable to make provision for the promotion of the most deserving of these Midshipmen to the higher rank of Sub-Lieutenant although not fully qualified for that rank under existing Regulations, and for the removal from the list of the Royal Naval Reserve of those Midshipmen who have either failed to obtain their certificates in the Mercantile Marine suitable to their age, or to keep up their drills, we

most humbly submit that your Majesty may be graciously pleased by your Order in Council to establish the following Regulations :—

“ ‘ 1. Midshipmen Royal Naval Reserve who formerly passed through a course of training in the *Worcester* or *Conway*, to be eligible for promotion to the rank of Sub-Lieutenant on completing six years’ service in the Royal Naval Reserve, provided (a) that they hold Master’s or Chief Mate’s certificates of competency under the Merchant Shipping Act, (b) that they are not in arrear in their drill and have obtained a certificate from the Commander of one of the drill ships that they are competent to instruct and drill men of the Royal Naval Reserve. (c) That they have followed the sea service as their profession throughout the time they have served as Midshipmen in the Royal Naval Reserve.

“ ‘ 2. The names of midshipmen who fail to obtain these qualifications for promotion at 25 years of age to be removed from the lists of the Royal Naval Reserve, except in any special case to be judged by us, where prolonged service abroad is the cause of the failure to qualify under these regulations.’

“ Her Majesty, having taken the said memorial into consideration, was pleased, by and with the advice of her Privy Council, to approve of what is therein proposed. And the Right Honourable the Lords Commissioners of the Admiralty are to give the necessary directions herein accordingly.

“ C. L. PEEL.”

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## CORRESPONDENCE.

## FOG AND THE COMPASS.

*To the Editor of the "British Merchant Service Journal."*

SIR,—Having read the various articles in the Journal, by several contributors during the last twelve months, for and against the effect of sea fog on the compass, I can only record my own experience in favour of the fact, that on a foggy day the same courses cannot be steered with safety that can be steered on a day in which no fog occurs.

Having been long in sailing vessels and steamers (both wooden) on the east coast, I always found that on a foggy day we never could go from point to point with the steamer on the same course as we could when no fog occurred, however dark the night might be. In steering the due course going north, in a fog, we were always carried too far off, and coming south made many narrow escapes from running on shore. We found the error always on the same side, taking us to the right-hand.

In coming into the English Channel in foggy weather, I have so often observed the same effects that I have for some years made a good allowance for the error on foggy days, and never found I was wrong in doing so. When I read of so many vessels getting over on the French coast in foggy weather, without being able to say how they got there, I attribute it to the same cause—the derangement of the compass leading them to the right-hand. I say to the right-hand, as I forbear giving it a name until further investigation perhaps determines what it is.

I will not at present presume to say positively it is the fog, but I will say that the effects I have mentioned take place on a foggy day, and I have always acted as if fog alone was the cause. Whether the fog acts on the air, on the ship, or on

the magnetism of the compass, or on all three together, I must leave for wiser heads than mine to determine, but having assumed certain causes to produce certain effects, and acted accordingly, I never have had occasion to regret doing so.

Having had no experience in iron vessels, I have no doubt that the error in them is much more extensive, and may in a great measure account for some of the extraordinary ways in which some of them have gone on shore, where the captain little expected to be. I trust the investigation of the matter may go on, and that various captains will still give their attention to it, so that the truth may at last appear and many vessels be preserved from shipwreck.

I am, &c.,

C. B. P.

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GRAIN IN BULK.

*To the Editor of the "British Merchant Service Journal."*

SIR,—I in no way consider myself an authority, yet, having had some little experience in the Merchant Service, extending over a period of forty years, chiefly carrying grain and other bulk cargoes, in various size vessels of past and present construction, I must say, after a careful survey, both of the past and the present, I have read with no little astonishment the various views and sentiments which have been produced before the Select Committee of the House of Commons on Merchant Shipping, none of which, in my opinion, go directly to the root of the matter, or yet show that unbiassed impartiality which ought to be exhibited by gentlemen professing to respect human life and property, for the universal good of mankind. On the contrary, a spirit of selfishness, and no general interest for the welfare of the service, all show a hostile spirit, not, as it should be, to *red tape*, but to the interference of legislation against personal interest, each claiming exemption for his own peculiar trade

or the sort of grain or other cargo, instead of all acknowledging the existing evil and the fearful loss to both life and property. Shipowners, merchants, and underwriters, who are the most deeply interested, should meet in conference, and take into their confidence shipmasters experienced and practised in these trades, and give them to know they were to speak their minds on the various subjects without reserve or fear in any way, and were looked to for their practical and scientific knowledge. Thus the whole of those most deeply interested in the maritime interests of the country would form a band and show an impartial front against the whole encroachments of *red tape*. I must say it is quite amusing to read the questions and answers asked and given before the Committee, which, in my opinion, can in no way bear upon the matter. What is wanted is to know whether vessels, constructed as our steamers are now, built for ocean or sea-going steamers, should be loaded in bulk or in bags. That seems to me to be the all-important question, and there ought surely be but one reasonable reply, which may be easily given by any unbiassed mind, duly considering every thing related to the ship's cargo and the way in which the loading is performed, and by whom it is performed, and contrasting the past and the present in both respects. This I will endeavour to do as well as I can. In former years, when I was first a sailor and engaged in the grain trade, vessels could very easily be loaded with grain in bulk. They were built on a different construction, they had both depth and breadth proportioned to their length, they were without impediments in their holds, having no 'tween-decks laid. They were at every port loaded by their crew, who were superintended by the officers and master. They were the men who had to navigate the ship, and who knew the dangers to which they were exposed, being seamen brought up at sea, and taught the duties and dangers of a seafaring life, and the evils resulting from shirking or neg-



lecting their duty. The captain then commanded both ship and crew. Ships were then properly dunnaged and matted with either single or double shifting-boards between-decks, generally what was termed single, that was, boards on each side of the hold beam, stanchions dividing the hold into fore and aft. Then time was taken to load a grain cargo, to allow it to settle as loaded, and light grains such as oats, barley, and rye, were trodden or rolled down, with boards being put on the top of the grain, and heavy weights rolled or dragged fore and aft over the top of it at intervals, tier after tier as the ship filled, so that when loaded she was fit to go to sea. Then it took as many days to load a 300 ton vessel with wheat, as it now takes hours to load a 3,000 ton vessel. Now who loads them? Stevedores and lumpers who have little or no idea of a ship, and none at all of the dangers to which she is exposed, nor in any way careful whether she escapes them or not. All is hurry. The vessels have two and three decks. The grain running from elevators; the hold is in a cloud of smoke with dust. People cannot remain in the lower holds to trim grain. As far as the hold is divided with hatches, everything is done which can be reasonably got at to fill, and the more departments the worse it is. The vessels are about from seven to ten times the length of their breadth, their sides are consequently like walls, they have no cape, they are sunk to their very depth, and far below what a vessel of such dimensions ought to be (at least, such is to be feared on many occasions). It must be self-evident to all who understand anything about such vessels that they cannot fail to be more seaworthy if loaded in bags than with loose grain, and it can only be those who have to go to sea with them who know it, but they have never been examined on such a momentous subject. Secretaries from the Board of Trade, shipowners, insurance brokers, and managers of steamship companies and associations, all more or less personally,

directly or indirectly, interested in preventing legislation on the point. Having been loaded on various occasions with all manner of grain cargoes, and having given serious consideration to the matter, I give it as my firm conviction that for no trade and under no circumstances, whether from Baltic, Mediterranean, or the Atlantic, no modern-constructed ship above 500 tons should ever load a grain cargo of any kind in bulk, according to the present system of loading, and not even then with laid 'tween-decks, as I feel sure it is impossible to trim them as they should be, whereas, loaded in bags, they cannot fail to be filled properly, and to be put properly in trim for sea. Why should exceptions be made, all are exposed to the same dangers, and the lives of those navigating them ought to be equally precious. In my opinion no exception laws ought to be made either with regard to the method in which these cargoes ought to be carried, or yet with the depth to which ships ought to be loaded. Masters ought to be left to their own discretion, or else a hard-and-fast principle be laid down to govern them. I feel convinced that if such was the case, that now as aforetime, when the discretion was left in the hands of those who were in command, vessels would not be overloaded. Never in the whole period of my command did an owner describe or in any way instruct me how to load a ship, nor yet found fault and say she was not sufficiently loaded, and I have been carrying all manner of bulk cargoes and every conceivable dead-weight cargo. I consider it showed a great weakness in the Government when it consented to place a load-line on a ship, especially in the way it is done, and which only aids the avaricious and evil-disposed to load their vessels beneath a fair depth, and prevent seamen from complaining against it. The load-line can be put at any position the master or owner has a mind, and then all hands have to sign for that, whereby if wrong, they seem by Act of Parliament to be compelled to sign their own destruction. The thing is terrible. By

such an act a shipmaster is placed in what I consider a very bad position. After this mark is once put upon the side of his ship, and he is loading a dead-weight cargo, and does not put his vessel to this mark, when she arrives his owner may say, how does it happen that you have not put the ship down to her marks, you have signed for it? Yet by doing so the ship would be overloaded. On the other hand, if an accident happens he is called into account, and every conceivable construction is brought against him in order to damage his character and put him to trouble and expense. My opinion is, that the sooner that the mercantile community, shipowners, shipmasters, marine services, and associations take one side, unite and demand a repeal of all those laws which press so heavily upon their interests, the better. For I fear very much it will be a long time before such evidence as has yet been given to the Select Committee of the House of Commons will have a sufficient amount of alchemy to eradicate the base metal of human error and ignorance from this calling more than others, and convert it into pure and refined gold.

DAVID MOORE.

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THE COMPASS UNAFFECTED BY FOG.

Royal Observatory, Greenwich,

London, S.E.,

July 29th, 1880.

SIR,—I am requested by the Astronomer Royal to inform you that fog in itself exercises no influence whatever on the *position* of the compass needle, although it is possible that the moisture which accompanies fog might in some slight degree affect mechanically its delicacy of action.

I am, Sir,

Your obedient servant,

WILLIAM ELLIS.



## THE CASE OF THE "HILDA."

THE prosecution of Mr. Wells, at the York Assizes, on a charge of sending the steamer *Hilda* to sea in an unseaworthy state, has terminated in a verdict of acquittal, returned under the direction of the learned Judge who tried the case. Mr. Wells is a partner in the firm of Charles and C. Wells, Jun., coal merchant and pitowners, carrying on business in Hull. The *Hilda* had been registered in the name of the senior partner, and in April last took in a cargo of coals at Grimsby, which cargo was loaded by Mr. Bannister, who for many years had acted as agent or factor to Messrs. Wells, and received their instructions, both by letter and verbally, as to loading. On the 21st of April, Mr. C. Wells, Jun., the defendant in the recent case, visited the *Hilda* while loading at Grimsby, and returned to Hull the same evening, and before the loading of the *Hilda* had been completed. On the 23rd the vessel was visited by the Board of Trade Surveyors, and, seeing that the Plimsoll disc was submerged some two or three inches, the ship was ordered to be detained, but before the detainer was laid on the *Hilda* had sailed. On this state of facts, apparently, the Board of Trade directed the prosecution of Mr. C. Wells, Jun., under the provisions of the 4th section of the Merchant Shipping Act, 1876. That section provides that "every person who sends or attempts to send, or is party to sending or attempting to send, a British ship to sea in such an unseaworthy state that the life of any person is likely to be thereby endangered, shall be guilty of a misdemeanour, unless he proves that he used all reasonable means to insure her being sent to sea in a seaworthy state, or that her going to sea in such unseaworthy state was, under the circumstances, reasonable and justifiable;" and the following section imposes a similar penalty on the master of a British ship

"who knowingly takes the same to sea" in an unseaworthy state. Mr. Wells was brought before the magistrate at Hull, and committed to the York Assizes. At the trial it was alleged that it is not the custom for merchants to superintend the loading, which is commonly effected under the superintendence of the captain or chief officer; and in the present instance it was said the defendant did not appear to have departed from the custom, or to have given any orders as to the specific quantity of coals to be put on board. The important part of the case, however, is the direction given to the jury by the learned Judge, and the verdict which followed. "To bring a man," said Mr. Justice Stephen, "within the reach of the Statute, it must be shown that he had attempted to send a British ship to sea in such an unseaworthy state that the lives of persons on board were likely to be thereby endangered. The evidence in the present case showed that the defendant was the only member of the firm who had taken any part with regard to the loading of the *Hilda*, but he did not think that the part taken by the defendant in the matter rendered him amenable to the Statute. It appeared that the defendant had visited the ship on three or four occasions during the repairs, but that was not sufficient to show that he was in any way a party to sending the ship to sea, and it was not proved that he had given any orders whatever to the captain. It was further shown that he had given instructions for loading the vessel, and from the evidence of Mr. Bannister it would appear that the bills of lading were made out by the firm. This, however, took the case no further, and only showed that the defendant had been a party to the loading, and only connected him with the cargo, and not with the sending to sea. He thought it should be shown that the defendant had given some orders, or had in some way caused the ship to be sent to sea. The bare knowledge that a ship is going to sea, and the placing of goods on board her, could not make a man a party to

sending such a ship to sea. Such a view would involve in great danger every man who chartered a ship or placed goods on any ship whatever, and would be a construction of the Statute which the Legislature could scarcely have contemplated." It is said that this direction was given to the Jury by Mr. Justice Stephen after consultation with Mr. Justice Bowen. These two distinguished lawyers are therefore of opinion that it is not sufficient that a person should be connected with the loading of a ship, even as owner, or in that capacity, to bring him within the compass of the Act. It must be shown that he "has given some orders, or in some way caused the ship to be sent to sea," otherwise the charterer, or any one concerned in the loading, might be held liable for the condition in which the ship is sent from her port. Of course it is not for us to say what course the Government may take in this matter. Mr. Wells has been acquitted, and cannot again be placed on his trial, nor is it likely that an indictment will be pressed against the master. It seems hardly possible that the law in this matter can be suffered to remain in its present condition. It was never, of course, contemplated that persons merely concerned in the loading of ships should be held responsible for their seaworthiness. Sections 4 and 5 of the Act of 1876 are clearly pointed against owners and their agents, the parties who are, or should be, directly responsible for the condition in which a ship proceeds to sea. Two eminent Judges have come to the conclusion that the actual "sending" of an unseaworthy ship to sea is necessary to constitute the offence contemplated by the Statute, and that rigid proof of such "sending" is necessary to procure a conviction. It seems difficult to controvert this position as a naked question of Statute Law; and, if the Judges at York are right, it will be also difficult to procure convictions for the alleged offence of sending an unseaworthy ship to sea. —*Shipping Gazette*.



THAMES NAUTICAL TRAINING COLLEGE,  
H.M.S. "WORCESTER."

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THE Annual Distribution of Prizes to the cadets of H.M.S. *Worcester* took place on Friday, June 30th.

After the ship had been inspected by Admiral Sir Richard Collinson, K.C.B., Deputy Master of the Trinity House, who had attended to award the prizes, a meeting was held under an awning on the upper deck.

The ceremony was presided over by Mr. G. H. CHAMBERS, who, in opening the proceedings, said : Ladies and gentlemen, I have had the pleasure on many occasions of addressing large gatherings on board the good ship *Worcester*, and I do so again with very great satisfaction, because I have the pleasure of informing you that the studies during the term now drawing to a close have been pursued with the greatest vigour, and that in some of those studies which are very important to our young cadets they have shown great excellence, and have even surpassed what we could have reasonably expected. You will understand that more clearly when I say that some of our cadets have obtained the highest number of marks, within some three or four, which has been fixed as the standard. You will all be able to appreciate the proficiency which must have been shown for such a result to have been obtained. There is another point to which I cannot allude without feelings of very deep satisfaction, and that is the manner in which the *Worcester* is fully meeting the object for which the Thames Nautical Training College was founded. The design which my old friend, Mr. Richard Green, had in view, when he asked me to join him in this undertaking, was to improve the character of the Mercantile Marine. I am happy to tell

you that the work done on board this ship has tended greatly to this end, and has really elevated the character of the Mercantile Marine generally. I might almost say that this must have inevitably been the case, because when once good has been done, the law is, that it should grow and spread, and such has been the happy result in the history of the *Worcester*. It cannot but be most gratifying to our cadets to know that we have on board to-day two officers who are in command of two of the finest ships in the Mercantile Marine, and who were formerly pupils of the *Worcester*. I think this cannot but prove an encouragement to my young friends to receive this information, because from the success of others they will not fail to see that the door is open to them to make a noble future for themselves.

Mr. BUCK, the Head Master, then read the reports of the examiners:—The report of Mr. Escott, Head Master of Greenwich School, stated that for several years he had to notice a gradual improvement in spelling, and now had great pleasure in remarking that it had never held a more satisfactory position than this year. The style and writing of the papers were much improved. The marks in history maintained the good position of last year. There was an upward tendency in all classes in geography. The grammar papers were very satisfactory. In arithmetic the results came up to his expectation, except in the special questions set to the nautical classes. Algebra and Euclid showed a decided advance in most classes. The nautical classes showed excellent results in the practical papers, and the report, in conclusion, congratulated the committee on the generally improved results this year. Captain P. Thompson, Examiner in Navigation to the Board of Trade, who had put the cadets through a rather long course of examination, reported most favourably of the Thames Nautical Training College, and of the precision and intelligence with which all his commands

were executed, both aloft and on deck. The report of Mr. Flannery, Marine Engineer, stated that the results of his examination of the cadets had been most satisfactory. The report of Captain J. H. Smith, Lieutenant R.N.R., Commander of the Worcester, stated that since the last general distribution of prizes in July, 1879, he had to report 81 boys having entered, and 79 having left or were leaving this term. It afforded him pleasure to report favourably of the conduct of the boys with a few exceptions towards the end of this term. They had shown a desire to learn the various branches of seamanship taught on board; although the weather had been very unfavourable for sail and yard drill they have done very well. On the 24th inst. the Committee witnessed the examination of the boys in seamanship, Rule of the Road, signals, heaving the lead, sail and topgallant-yard drill, after which they were assembled in the usual way, when the following boys who had previously been selected by himself and Mr. Buck, were put up and voted for by their schoolfellows:—Theodore J. Eldridge, George S. Hewett, Ivan A. B. Mackinnon, Frank S. Warren, and Edward Beetham, when George S. Hewett was chosen to be recommended for Her Majesty's gold medal, which gave great satisfaction to all on board. His conduct during his time with us had been most satisfactory. The following three boys were recommended by the Lords Commissioners of the Admiralty as midshipmen in the Royal Naval Reserve:—George S. Hewett, Edward Beetham, and Frank S. Warren. And at the same time Ivan A. B. Mackinnon and Hamilton A. Livermore were selected for the Hooghly Pilot Service. He still received very satisfactory accounts of this service from those who had entered it. Mr. R. C. Buck, head master, reported that since the last summer distribution of prizes the school studies had been carried on regularly, and, as the examination showed, with satisfactory results. The conduct and attention of the cadets.



during school hours had been in almost every case such as he could have desired. There had been during the year 223 different pupils under tuition, 201 of these, their full complement, being present at one time. Mr. A. Escott, who examined the school this month had placed the marks before them, and they showed Charles William Lovell to be the best scholar on board. The new arrangement for the school management had now been completed. By accession of teaching-power, &c., opportunities of gaining sound instruction would be much increased, and they trusted next year to attain a still higher standard of results than any attained at present.

The various prizes having been presented, Sir RICHARD COLLINSON, on rising to address the cadets, was received with louds cheers. Boys, said the gallant officer, I have had very great pleasure in coming amongst you on board this ship to-day; and first, let me congratulate you on the favourable reports which we have now heard read. The fact denotes, not only that those who have the arduous and important task of directing your studies have done their duty, but that you, too, have shown a desire and a determination to learn the work for which you have come here. I would remind you, first of all, of the great interest which Her Majesty the Queen takes in this admirable Institution. This has been shown by the Queen annually providing the Gold Medal, and by the wise regulations enacting that you yourselves shall have the power of selection. I am very glad to see that the regulation has been carried out in the official way in which it has been done ever since the Medal was granted. On those boys who are about to leave I would enjoin the necessity of adding to the knowledge which they have had the advantage of acquiring here. Let them bear in mind that now is the time for work, and if they are diligent they may rest assured that success will ever follow labour. I would also impress upon them, that they cannot

do better than endeavour with all their might to profit by what they have learned here. It is a capital stepping stone, and now that they are beginning an active career afloat, let them endeavour to render themselves perfect in seamanship, and with everything connected with their profession. Depend upon it, there is no better proof of a boy's aptitude for the sea than by showing that he has a great liking for his profession. I would also enjoin upon you when you go afloat the necessity of obedience. He who cannot obey is not fit to command. I would remind you of another point which may be of service to you. There is very little doubt that some of you, perhaps many of you, will not go without receiving a reprimand, and, at the time it may be very irritating to you, but, remember it is for your benefit such a reprimand is given, for, after a time you will not need one, and as you gain experience you will take pleasure in the performance of duties which at first may be irksome. It will require some time however to gain that experience, but I have no doubt, if you are true sailors, you will soon have it in your power to grin at a difficulty for the pleasure it will give you to overcome it. You will no doubt be exposed to difficulties and dangers, but let me enjoin upon you to have the honour of your country, the credit of your families, and the reputation of the *Worcester* ever in view, and then you will never disgrace either the one or the other. You will now leave this ship with the hearty good wishes not only of the comrades you leave behind, but of the ladies and gentlemen who have come down to-day to see you receive your prizes. We all hope that God's blessing will attend you on your career, for I can assure you that, in the enjoyment of God's blessing, you will not only have a comfort in your adversity should such fall to your lot, but a safeguard in your prosperity, which will ever enjoin on you the necessity and value of succouring those who may be in need. And to you who remain on the *Worcester* for the completion of your course

of study let me say a word. I would call your attention to the prizes which have been given to-day, and I would express the hope that you will be encouraged to persevere in your studies, that you may in course of time leave this good ship with honours similar to those who are leaving to-day. The great point for you to remember is that you have here an advantage which only very rarely fell to the lot of those who formerly went to sea. And there is no doubt, as your worthy Chairman has said, many of your predecessors on board this ship have obtained important commands, and will together with yourselves I hope develope into ornaments of the Mercantile Marine of this country. Holding, as I do, the honourable position of Deputy Master of the Trinity House, I have attended here with a great deal of pleasure, and I can tell you that the Elder Brethren take a deep interest in this vessel, knowing by experience the valuable and important service she renders to the country. We may possibly look forward to the fact that some among you may recruit the Corporation Service ; and it has been very justly said that the Corporation of the Trinity House is the blue ribbon of the Mercantile Marine. I trust many of you will cherish the ambition to attain to it.

Admiral STOPFORD said : It is quite certain that the Officers of the Royal Navy are in the habit of looking at the Mercantile Marine as their right hand. We all know that the Royal Navy may at times be sorely tried by the want of able officers and men. Our present condition may be likened to a ship worked by her watch on deck, the Merchant Service is the watch below, and the Royal Navy Reserve the watch in reserve, and we may have occasion to pipe all hands up because of the watch on deck not being sufficient. Then, we can call upon the Royal Navy Reserve to come to our assistance, and I have no doubt that when we do call it will be heartily responded to. We have in that service a most excellent set both of officers and men. I am sure of that



because I have been obliged to call upon them, and I have found them perfect seamen and gentlemen, and able to give great assistance. It has given me great pleasure to-day to see such a capital set of young officers coming forward for the work of the future, and I hope, and indeed am sure, the cadets before me will do credit to their training.

The proceedings terminated with the customary compliments and votes of thanks.

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GRAIN IN BULK.

*(Continued from Page 372.)*

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**B**EFORE the Select Committee of the House of Commons, Mr. Martell, of Lloyd's Register, stated that he had considered the question of losses in grain-laden ships, and when in America and Canada had made enquiries into the subject; one of Lloyd's surveyors, who had had great experience of grain-loading in New York, told them that for some time past neither sailing ships nor steamers had been properly loaded. He had seen ships of 1,000 to 1,800 tons loaded in ten working hours, without, of course, giving proper time for trimming the grain. He was told this on January 11 last; vessels had had to put back to New York a distance of 500 to 600 miles in consequence of the grain having shifted, and there being a heavy list on one side. Cases of this kind had been frequent and it went to show defective loading. The President of the Atlantic Mutual Insurance Society had told him, it was his experience that if grain was properly loaded in bulk, it was as safe as it was in bags. The inspectors visited ships when loaded, and passed them as all right, but in many cases they did not pay any attention to the way in which the vessel had been loaded,

but merely looked at the trim and draft. In his opinion the loading ought to be inspected every few hours. The inspector ought to have the power to stop the elevator and see that the cargo was properly trimmed and packed down. He believed, however, that the rules in Canada were properly carried out. He was averse to the imposition of restrictions on shipowners, and he did not think they would object to any regulations shown to be for their own good. He did not think they would object to carry a portion of their cargo in bags and the rest in bulk. He thought that British ships should not be placed at a disadvantage in respect to foreign ships. There was a class of shipowners now in existence who did not seem to have a proper regard for their reputation and sufficient knowledge of the proper method of loading ships, but the respectable shipowner would accept any reasonable regulations for insuring the proper loading and safety of their ships. With regard to the question of foreigners, he pointed out that in the case of Canada, their regulations applied to all vessels loading in their ports. If they could do that he saw no reason why Great Britain should find it difficult to make regulations which should apply to foreigners.

Sir WILLIAM HARCOURT: How is it that Lloyd's is the only insurance society in the world which takes no measures to insure the safety of merchant ships with reference to stowage? Underwriting is a mere matter of risk, like betting; when a man backs a horse and hopes it will win, it is a matter of business. A man insures a ship, and puts the premium at so much, and he runs the risk of that ship arriving or not, it is not his business to take measures to ensure the safety of that ship. They wanted the Board of Trade to make compulsory rules to save them from loss. The underwriters are a private body of men. I am afraid that the theory of underwriters is that it is not a desirable thing that vessels should not be lost at some time, or shipowners



would not insure with them. I think that I can safely say that what they desire is the safety of ships and not their loss. The Board of Trade ought most certainly to give advice to shipowners when asked for it, and should give it through competent naval architects.

The CHAIRMAN: And are they to advise shipowners as to the method of conducting their business at the expense of the public? We are talking about saving human life, and any advice the Board of Trade might give would be more beneficial. If a shipowner, for instance, put his load-line at twenty feet which should not be so much, it would be a good thing if the Board of Trade could cause him to alter it to nineteen feet.

Mr. FARRAR: Secretary to the Board of Trade was recalled, and said he was aware this Bill proposed to place restrictions on foreign as well as British vessels, and he had gone into the question since he was last examined. The conclusion which he had arrived at was, that it was very questionable whether any regulation we might make might not be resented by foreign countries as being contrary to International Law. The Board of Trade has power and direction to see that every ship was safe in construction and stowage before she started; but in the case of mines and factories, the law laid down in great detail certain rules and precautions by which the inspectors were empowered to look at the mines and factories and see that these precautions were observed. If they were not observed the course was that the inspector was not allowed to stop the mine but had to go before a Court of Justice and sue the mine-owner for the penalties, in which case the mine-owner had the benefit of having the matter tried before a court of law previous to any action being taken, and in such a case the owner had the option of being tried by arbitration also, the Board of Trade being compelled to send one of its officers to be present. In all these particulars there was a great difference between the

case of this business and that of shipping. Then again there was this further difference that the inspector had no power whatever to stop the mine or factory, whereas the Government officers of the Board of Trade have power to delay a ship. This was very serious because delay was everything in shipping. Everyone interested in this matter ought to be extremely grateful to Mr. Plimsoll for having drawn public attention to the subject, and the power he has placed in the hands of the Government for protecting the lives of seamen. The Board of Trade did not differ from Mr. Plimsoll as to the object in view, but only as to the mode in which he pursued that object, and as to the exaggerated statements he had made with reference to the conduct of shipowners and officials.

This, I believe, finishes the examination for the time by the Select Committee.

A new elevator, work on which was begun in June, 1879, at the terminus of the New York Lake Erie and western railroad Jersey city, is now completed and opened for business. It stands on 6000 piles, varying from 67 to 72 ft. in length, driven as close to each other as possible, and cut off 4 ft. below low water, upon these a platform of solid timber 2 ft. thick upon which rests 248 stone piers, 14 ft. in height,  $7\frac{1}{2}$  ft. square at the base and  $3\frac{1}{2}$  ft. square at the top, and upon this stands the superstructure. The building is 90 by 360 ft. on the sides and 155 ft. in height and this is divided into 510 bins 60 ft. in depth giving a total capacity of 1,400,000 bushels of grain.

August 2, 1880, ship *Essex*, 1,255 tons, from Basseen with rice, lost with all hands. Mr. Commissioner Rothery, in giving judgment, said: There was every reason to suppose that when the vessel left the port with a cargo of rice she was in a good and seaworthy condition. As to whether she was overladen and whether as laden she had sufficient stability, the Court was of opinion that a freeboard of 4 ft. 11 in. was not sufficient;

it should have been at least 5 ft. 6 in. considering that she carried 31 per cent. above her registered tonnage. The Court was of opinion that considering her dimensions, and her heavy cargo, rice, the vessel as laden had sufficient stability. But the most important question was in regard to the proper stowage of the cargo. The Court was of opinion that in respect of shifting boards the cargo was amply secured, but as to the system of ventilating the cargo, the Assessors had carefully considered this point, and they considered that the system adopted of space ventilation was undoubtedly not a safe or proper one, and that there was considerable danger of the cargo shifting and the open spaces being filled. Indeed, from the evidence, there was conclusive testimony that the cargo had shifted, and that very considerably on one side of the vessel. The Court was of opinion that the bags of rice should be stowed a burton. Upon the evidence the Assessors were of opinion that in regard to the cause of the disaster she was too deeply laden, that the way the cargo was stowed endangered the safety of the vessel, and that she was too hurriedly loaded.

The *Essex* was built in 1863, and had, before sailing, a complete overhaul under the inspection of Lloyd's surveyors, at a cost of £1,600; was valued at £12,000, and insured for £7,500; her cargo was valued at £16,500, and insured for £13,000.

Mr. MARTELL's evidence is very startling, and is worthy serious consideration, as it is the deliberate opinion of a gentleman who well understands what he is speaking about, and is aware of the weight of his words. First, as to the manner of loading grain-cargoes, in ships from New York, if there is to be no care taken in loading, and no time allowed for properly trimming and stowing a grain-cargo in bulk, is it any wonder that ships so laden go down with all hands during the first gale they encounter after leaving port? That ten hours is not sufficient time, nor 20 hours in which



to load a ship of 1,800 carrying 2,400 tons or more of grain, is, I think, an assertion that no nautical man will contradict ; it is an utter impossibility to stow so large a quantity of grain in so short a period. This is so well known that no one concerned makes any attempt to stow it. It is nothing less than pitching the grain into the ship and leaving it to stow itself, which it cannot do. It has, I think, been satisfactorily proved, that grain has been in former years, and can be now carried in perfect safety by taking precautions that experience has proved to be absolutely necessary in carrying such a cargo with the minimum of danger on an ocean voyage, but neglecting these precautions and allowing it to run into the hold from an elevator at the rate of over 200 tons per hour, is an act so wicked and dangerous that it becomes murder ; such a reckless disregard of life that one is almost tempted to say it is not and cannot be true, that any man, professing ordinary human and humane feelings, would dare to be guilty of such moral turpitude, and still more astonishing that no one is found to denounce such wickedness, but the fact stares us in the face, it is true in all its hideous deformity, it is proved to be a common practice in New York, and shows that it is high time that those most interested, that is the captain, officers, and crews, and all in in the Merchant Service, should take earnest steps to see if something cannot be done to at least prevent such iniquitous proceedings. Is there an absolute necessity for such reckless haste in loading a grain cargo ? Is it necessary in this 19th century that everything must be done in a hurry, and no regard paid to human life ? Is it necessary to emulate and imitate the "Flying Scotchman" in everything, and run far greater risks ? I am sure no one after a moment's consideration will assert that such a necessity is imperative ; loading a grain-cargo in bags at San Francisco, though not quite so rapid a proceeding, is carried on with as much despatch as possible, and no regard for the safety of the ship and those

on board. Upon this subject see Captain Moore's able letter in last month's Journal. The sailor is exposed to very many vicissitudes and dangers in the ordinary course of his life, there is no need to make danger for him. Secondly: "That underwriting is a mere matter of risk, like betting; when a man backs a horse and hopes it will win, it is a matter of business. A man insures a ship and puts the premium at so much, and he runs the risk of that ship arriving or not. It is not his business to take measures to ensure the safety of that ship." Here is a startling statement as to what we may expect at the hands of the underwriters. Underwriting and horse racing are on a par; a jockey's neck is occasionally broken; two or three ships' companies are drowned every month, and no one, until Mr. Plimsoll started the question, cared or thought about it. The British Merchant Service owes Mr. Plimsoll a deep debt of gratitude, though at times his eager earnestness overwhelms his otherwise solid, good sense. The underwriter, according to the evidence, says: If the horse that my money is on wins the race, I care not which horse has lost. If the ship I have insured comes to port in safety, what does it concern me how many have gone to the bottom. It is no business of mine to enquire why the others were lost, or even to enquire a reason should the ship I insure be lost. I have to pay. Do better next time, and make a better book for next year's racing. Here there is no consideration for the lives on board, no regret for the thousands of sailors drowned annually, for their widows and orphans left to shift for themselves, and no thought for homes ruined and made desolate. There is a cursed thirst for gold; a thirsting to get rich, which is so iniquitous, that it bars every avenue to a man's heart, makes him adamant, and deaf to the cry of his fellow creature. This evil has grown up from small beginnings until it has now reached such gigantic proportions that the general cry is it must be stopped. But how is this to be done? Can the

Government make laws upon this side on this subject that have any chance of being respected under existing circumstances on the other? Can you compel the New York people to do away with elevators, and stop them loading a ship in 10 hours with 2,400 tons of grain in bulk? Can you compel them to do away with all their immense labour-saving machinery, and load grain in bags? No. You know it cannot be expected, and no one would be foolish enough to ask that which would be most certainly refused; for the Government to make regulations which would hamper the British shipowner, and put the trade completely in the hands of foreigners who would be under no such restriction, is not to be contemplated. You cannot compel foreign nations to abide by any such regulations, if made; we have a great deal too much of foreign ships and sailors, without sitting down and deliberately framing laws and regulations against ourselves, and to their advantage. Restrictions and regulations in England ought to have an opposite tendency. Free trade is all very well and has done very much for this country, but I think the shipping trade of England has suffered for it; but when it comes to giving the foreigner the clothes off your body and walking naked yourself, it is going a little too far.

The summing up is this: "That the British Government must not by restrictions upon the British, throw the grain-carrying trade entirely into the hands of the foreign shipowner; that the present manner of stowing a bulk grain-cargo is reckless in the extreme, and that the same may be said of a grain-cargo in bags, but not liable to such disastrous results in same proportion; that it is impossible to do away with elevators; that the exigencies of the nineteenth century demand that grain shall be run into a ship at the rate of hundreds of tons per hour; that the moment the last ton is in the steamer shall go a-head full speed for her destination; that last, but not least, that Mr. Plimsoll is doing one of the



very best things among the many he has done for the good of the British seamen, and that it is a universal opinion amongst us that something must be done to stop this wholesale murder of our brother sailors ; let it be allowed that all this is absolutely necessary and certainly much cannot be altered, and the first must not be entertained ; it brings us back to my question in last month's Magazine at the close of my paper on the same subject.

Cannot a ship be so constructed internally that with all these things against her she may carry a grain-cargo in bulk put in by an elevator at the rate of hundreds of tons in an hour with, humanly speaking, perfect safety ? Ships constructed internally in the manner indicated would be able to do this without fear of shifting. It is a question of life or death, and surely when this is the case, the Government have a right to say that ships shall be so constructed. This would not throw the trade into the hands of foreigners ; it would not entail any hardship on the British shipowner, because the rate of insurance upon a ship so constructed would be very materially less and in a very short time more than cover the original cost of the bulkheads, and throw little or no impediment in the rapid despatch which seems to be the great effort of the present day with shipping.

The remark that if ships are to be so constructed, those carrying timber must cut it into six feet lengths, is so childish that I should not take the trouble to refute it, but the remark having been received with some sort of approbation by some who did not stop to consider the question, and that possibly this Journal may be read by some non-nautical men, I will say this for their information, that it has no weight whatever, for this reason, that bow-ports, through which the timber in the old wooden ship passed into the hold, does not exist in the modern iron ship. The collision bulkhead, placed at a given distance (according to the size of the ship from the stem), must be intact without a door or opening of any

sort into the hold, has rendered that port useless ; all timber taken in by a modern iron ship must go down through the hatchway. There are plenty of wooden ships with bow-ports remaining for carrying timber, and the majority of them would not be allowed to carry a grain or any perishable cargo ; but if this were not so, better cut the timber into reasonable lengths, no necessity for 6 feet lengths, than that thousands of sailors should be annually drowned, and ships go to the bottom for an idea. Another remark may be made by those in command, that such an arrangement would materially interfere with the rapid loading and discharging of the ship. It may possibly to a small extent, but if captains and masters of merchant ships should be unwise enough to raise obstacles against their own preservation, and value more the rapid loading and discharging of the ship than their own lives and the lives of the men under their command, I am afraid there is not much to be done in the matter so long as those, if they should be so ill-advised as to do this, who are most concerned, will not stir in the matter, will not raise their voice against the present system. The owner need not make their ships secure, the Government need not interfere. The underwriter will see no difference between insuring a ship and betting on a racehorse, and Mr. Plimsoll is undertaking a thankless office. It appears to me that this is the legitimate way to meet the difficulty, it has the advantage of getting over it in the easiest way, and injures no one, and positively puts money in the owner's pocket. The only new element is the fore-and-aft bulkheads from stem to stern which will absolutely prevent shifting to any extent, if not altogether. The cross bulkheads have been adopted for many years in all large steamers, such as mail boats, &c., &c. Why should they not come into general use? Some may say, what about the iron ships already constructed without these bulkheads ; put them in where human life is concerned, a few hundred pounds to preserve it is nowhere, and no high-

mindful honourable man among our shipowners, and there are very many, would hesitate a moment.

Mr. Plimsoll has opened up the subject, the Select Committee of the House of Commons are collecting information, the Government and the Board of Trade are ready to do something for the protection of the lives of all on board grain-loaded ships. There is, I think, a plan that with reference to the times we live in is the best, is easily adopted, will hurt no one, but on the contrary be a positive gain to all, and leave the loading a matter of secondary consideration. It seems to me in view of the obstacles to any other plan, the only reasonable conclusion and is, I am certain, the only way to bring grain in bulk; run into a ship as it is in the present day, and with the very great size of our ships compared with those of twenty-five years ago, across the ocean with, humanly speaking, no danger whatever.

An account is given in this paper of a new elevator just finished in New York. It is said that this elevator is able to load a ship carrying three thousand tons of grain in four hours and a ship that carries one thousand tons in one hour. No one would be rash enough to assert that either of these cargoes could be properly and safely stowed, as I imagine the Americans would laugh at us if we asked them to do away with this elevator, or to take more care in loading a ship with a grain cargo in bags; nothing remains but for us to neutralize the pernicious effect of a system that has grown up from the march of the times and the desire of dispatch over-ruling all other considerations.

#### LOSS OF THE SHIP "ESSEX."

According to the judgment of the Wreck Commissioner, this ship was lost from improper stowage insomuch as spaces were left among the rice for ventilation. That spaces were actually left in the hold and nothing done to secure the rice from shifting is something more than I



will believe of a British shipmaster, except under the most positive and direct proof ; no man would be so foolish. He must know that nothing could be so sure to promote shifting as such a proceeding it would be giving the rice no chance to do otherwise, and not doing anything in the way of ventilation ; space ventilation or ventilation by wooden boxes in a rice ship is absolutely necessary for the preservation of the cargo, to carry off the heated air of the lower hold and prevent the cargo sweating, the spaces thus left are filled by long narrow boxes or ventilators stowed in with the bags and communicating with a large upright shaft in each hatchway, all made strong enough to resist any pressure the rice might exert against them, so that should the cargo shift these ventilators would of course go over with it, but there would be no space for the rice to fill, for there is actually no open space for the rice to shift into, the space required for ventilation being enclosed by four stout teak planks well nailed together with small holes in them to allow the heated air from the cargo to pass into the ventilator ; the width of these boards is about 9 in. and about 5 ft. long. These ventilators answer another purpose, they tend to raise the centre of gravity and render a ship easier at sea than she would be without them. In Basseen any amount of care can be taken in the stowage. Should the cargo be coming in too fast the captain can stop it. From the little I know of Basseen, I believe the merchants there desire nothing so much as that their cargoes shall be safely landed and in good preservation and will give every facility and assistance towards arriving at that end. Ventilation by long narrow boxes or space ventilation, if that is the correct term, is the right thing when done in the right way, and cannot in any manner endanger the safety of a ship, but, like most things of the sort, disastrous in absence of common sense and prudence ; but that any man would leave open spaces in a rice or any cargo is not to be believed. That the

cargo may have been loaded too hurriedly is very probable, from the rush that everything is done in at the present time. It was, I believe, the captain's first voyage in command ; he wished to out-do all that had been done by his predecessors and perhaps most unfortunately allowed the loading to be hurried, but the true cause is *too deeply laden*. She had carried as much years before when a new ship and now she is old just as much must go into her as when young. The captain is dismissed on arriving in London. This, not ventilation, was the cause of her loss. It might be well to enquire how many times and how much the Plimsoll-mark has been moved and raised since it was first placed upon her side. Shifting boards may be used from the East Indian rice ports—I never used them ; and since this trial have asked many members of this Society. They all answer me by saying I never knew of such a practice, stowing rice bags a burton instead of fore-and-aft is at least worth consideration.

#### EFFECT OF FOG ON THE COMPASS OF IRON SHIPS.

In last month's Magazine, there is a letter from W. Ellis, Esq., Royal Observatory, Greenwich, in which he says, "Fog in itself exercises no influence whatever on the position of the compass needle." I wish he had stopped there ; it might have been to many minds a very conclusive and satisfactory decision and one that I should have been much inclined to accept, but it is all upset and leaves the whole question as open as before when he admits that the moisture that accompanies fog may affect the needle. When did any one see a fog in the English Channel that was not full of moisture ? The oracle has said too much this time ; how can any man separate fog and the moisture that accompanies it ? One is the result of the other, and if, as it is admitted by so high an authority that this moisture may affect the needle, well, common sense tells me, that as it is the fog that has caused the moisture, so it is the fog that has

caused the error in the needle. The error in the needle is caused by moisture and the moisture is caused by fog. "Q. E. D." Here is the highest authority admitting the possibility of the fog affecting the needle. Upon this subject see a straightforward letter in the Magazine of same date by "C. B. P."

HENRY FAITHFULL.

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MERCHANT SEAMEN (PAYMENT OF WAGES  
AND RATING) ACT, 1880

[43 & 44 VICT., CH. 16.]

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ARRANGEMENT OF SECTIONS

SECTION.

1. Short title and construction.
2. Conditional Advance Notes illegal.
3. Amendment of 17 and 18 Vict., c. 104, s. 169, as to Allotment Notes.
4. Rules as to payment of wages.
5. Penalty for being on board ship without permission before Seamen leave.
6. Provisions contained in Section 5 to apply to ships belonging to foreign countries in certain cases.
7. Rating of Seamen.
8. Power of Court to rescind contract between Owner or Master and Seaman or Apprentice.
9. Licensing of Seamen's lodging-houses.
10. Desertion and absence without leave.
11. Extension to Seamen of 38 and 39 Vict., c. 90.
12. Repeal of enactments in Second Schedule.  
Schedules.

An Act to amend the Law relating to the Payment of Wages  
and Rating of Seamen. [2nd August, 1880.]



Be it enacted by the Queen's most excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows—that is to say:—

1. This Act may be cited as the Merchant Seamen (Payment of Wages and Rating) Act, 1880.

This Act shall be construed as one with the Merchant Shipping Acts, 1854 to 1876, and those Acts and this Act may be cited collectively as the Merchant Shipping Acts, 1854 to 1880.

2. (1.) After the 1st day of August 1881, any document authorising or promising, or purporting to authorise or promise, the future payment of money on account of a Seamen's wages conditionally on his going to sea from any port in the United Kingdom, and made before those wages have been earned, shall be void.

(2.) No money paid in satisfaction or in respect of any such document shall be deducted from a Seaman's wages, and no person shall have any right of action, suit, or set-off against the Seaman or his assignee in respect of any money so paid or purporting to have been so paid.

(3.) Nothing in this Section shall affect any Allotment Note made under the Merchant Shipping Act, 1854.

3. (1.) Every agreement with a Seaman which is required by the Merchant Shipping Act, 1854, to be made in the form sanctioned by the Board of Trade shall, if the Seaman so require, stipulate for the allotment of any part not exceeding one half of the wages of the Seamen in favour of one or more of the persons mentioned in Section 169 of the Merchant Shipping Act, 1854, as amended by this section.

(2.) The allotment may also be made in favour of a savings bank, and in that case shall be in favour of such persons, and carried into effect in such manner, as may be for the time being directed by regulations of the Board of Trade, and

Section 169 of the Merchant Shipping Act, 1854, shall be construed as if the said persons were named therein.

(3.) The sum received in pursuance of such allotment by a savings bank shall be paid out only on an application made, through a Superintendent of a Mercantile Marine Office, or the Board of Trade, by the Seaman himself, or in case of death, by some person to whom the same might be paid under Section 199 of the Merchant Shipping Act, 1854.

(4.) A payment under an Allotment Note shall begin at the expiration of one month, or, if the allotment is in favour of a savings bank, of three months, from the date of the agreement, or at such later date as may be fixed by the agreement, and shall be paid at the expiration of every subsequent month, or of such other periods as may be fixed by the agreement, and shall be paid only in respect of wages earned before the date of payment.

(5.) For the purposes of this section "savings bank" means a savings bank established under one of the Acts mentioned in the first Schedule to this Act.

4. In the case of foreign-going ships—

(1.) The Owner or Master of the ship shall pay to each Seaman on account, at the time when he lawfully leaves the ship at the end of his engagement, £2, or one-fourth of the balance due to him, whichever is least; and shall pay him the remainder of his wages within two clear days (exclusive of any Sunday, fast day in Scotland, or Bank Holiday) after he so leaves the ship.

(2.) The Master of the ship may deliver the account of wages mentioned in Section 171 of the Merchant Shipping Act, 1854, to the Seaman himself at or before the time when he leaves the ship instead of delivering it to a Superintendent of a Mercantile Marine Office.

(3.) If the Seaman consents, the final settlement of his wages may be left to the Superintendent of a Mercantile Marine Office under regulations to be made by the Board of

Trade, and the receipt of the Superintendent shall in that case operate as a release by the Seaman under Section 175 of the Merchant Shipping Act, 1854.

(4.) In the event of the Seaman's wages or any part thereof not being paid or settled as in this section mentioned, then, unless the delay is due to the act or default of the Seaman, or to any reasonable dispute as to liability, or to any other cause not being the act or default of the Owner or Master, the Seaman's wages shall continue to run and be payable until the time of the final settlement thereof.

(5.) Where a question as to wages is raised before the Superintendent of a Mercantile Marine Office between the Master or Owner of a ship, and a Seaman or Apprentice, if the amount in question does not exceed £5, the Superintendent may adjudicate, and the decision of the Superintendent in the matter shall be final; but if the Superintendent is of opinion that the question is one which ought to be decided by a Court of Law he may refuse to decide it.

5. Where a ship is about to arrive, is arriving, or has arrived at the end of her voyage, every person, not being in Her Majesty's service, or not being duly authorised by the law for the purpose, who—

- (a.) Goes on board the ship without the permission of the Master, before the Seamen lawfully leave the ship at the end of their engagement, or are discharged (whichever last happens); or,
- (b.) Being on board the ship, remains there after being warned to leave by the Master, or by a police officer, or by any officer of the Board of Trade or of the Customs,

shall for every such offence be liable on summary conviction to a fine not exceeding £20, or at the discretion of the Court, to imprisonment for any term not exceeding six months; and the Master of the ship or any officer of the Board of Trade may take him into custody, and deliver him up forth-



with to a constable to be taken before a Court or Magistrate capable of taking cognisance of the offence, and dealt with according to law.

6. Whenever it is made to appear to Her Majesty—

- (1.) That the Government of any foreign country has provided that unauthorised persons going on board of British ships which are about to arrive or have arrived within its territorial jurisdiction, shall be subject to provisions similar to the provisions contained in the last preceding section as applicable to persons going on board British ships at the end of their voyages ; and
- (2.) That the Government of such foreign country is desirous that the provisions of the said section shall apply to unauthorised persons going on board of ships belonging to such foreign country within the limits of British territorial jurisdiction ;

Her Majesty may, by Order in Council, declare that the provisions of the said last preceding section shall apply to the ships of such country ; and thereupon as long as the Order remains in force those provisions shall apply and have effect as if the ships of such country were British ships arriving, or about to arrive, which had arrived at the end of their voyage.

7. A Seaman shall not be entitled to the rating of A.B.—that is to say, of an Able-bodied Seaman, unless he has served at sea four years before the mast ; but the employment of Fishermen in registered decked fishing vessels shall only count as sea service up to the period of three years of such employment ; and the rating of A.B. shall only be granted after at least one year's sea service in a trading vessel in addition to three or more year's sea service on board of registered decked fishing vessels.

Such service may be proved by certificates of discharge, by a certificate of service from the Registrar-General of Shipping and Seamen (which certificate the Registrar shall

grant on payment of a fee not exceeding 6d.), and in which shall be specified whether the service was rendered in whole or in part, in steamship or in sailing ship, or by other satisfactory proof.

Nothing in this section shall affect a Seaman who has been rated and has served as A.B. before the passing of this Act.

8. Where a proceeding is instituted in or before any Court in relation to any dispute between an Owner or Master of a ship and a Seaman or Apprentice to the sea service, arising out of or incidental to their relation as such, or is instituted for the purpose of this section, the Court, if, having regard to all the circumstances of the case, they think it just so to do, may rescind any contract between the Owner or Master and the Seaman or Apprentice, or any contract of apprenticeship, upon such terms as the Court may think just, and this power shall be in addition to any other jurisdiction which the Court can exercise independently of this section.

For the purpose of this section the term " Court " includes any Magistrate or Justice having jurisdiction in the matter to which the proceeding relates.

9. It shall be lawful for the sanitary authority of any seaport town to pass bye-laws for the licensing of Seamen's lodging-houses, for the periodical inspection of the same, for the granting to the persons to whom such licenses are given the authority to designate their houses as Seamen's licensed lodging-houses, and for prescribing the penalties for the breach of the provisions of the bye-laws: Provided always that no such bye-laws shall take effect till they have received the approval of the Board of Trade.

10. The following provisions shall, from the commencement of this Act, have operation within the United Kingdom.

A Seaman or Apprentice to the sea service shall not be liable to imprisonment for deserting or for neglecting or refusing without reasonable cause to join his ship or to pro-

ceed to sea in his ship, or for absence without leave at any time within 24 hours of his ship's sailing from any port, or for absence at any time without leave and without sufficient reason from his ship or from his duty.

Whenever, either at the commencement or during the progress of any voyage, any Seaman or Apprentice neglects or refuses to join, or deserts from or refuses to proceed to sea in, any ship in which he is duly engaged to serve, or is found otherwise absenting himself therefrom without leave, the Master or any Mate, or the Owner, Ship's Husband, or Consignee may, with or without the assistance of the local police officers or constables, who are hereby directed to give the same, if required, convey him on board : Provided that if the Seaman or Apprentice so requires he shall first be taken before some Court capable of taking cognisance of the matters to be dealt with according to law ; and that if it appears to the Court before which the case is brought that the Seaman or Apprentice has been conveyed on board or taken before the Court on improper or insufficient grounds, the Master, Mate, Owner, Ship's Husband, or Consignee, as the case may be, shall incur a penalty not exceeding £20, but such penalty, if inflicted, shall be a bar to any action for false imprisonment.

If a Seaman or Apprentice to the sea service intends to absent himself from his ship or his duty, he may give notice of his intention, either to the Owner or to the Master of the ship, not less than 48 hours before the time at which he ought to be on board his ship ; and in the event of such notice being given, the Court shall not exercise any of the powers conferred on it by Section 247 of the Merchant Shipping Act, 1854.

Subject to the foregoing provision of this section, the powers conferred by Section 247 of the Merchant Shipping Act, 1854, may be exercised, notwithstanding the abolition of imprisonment for desertion and similar offences, and apprehension without warrant.



Nothing in this section shall affect Section 239 of the Merchant Shipping Act, 1854.

11. The 13th Section of the Employers and Workmen Act, 1875, shall be repealed in so far as it operates to exclude Seamen and Apprentices to the sea service from the said Act, and the said Act shall apply to Seamen and Apprentices to the sea service accordingly; but such repeal shall not, in the absence of any enactment to the contrary, extend to or affect any provision contained in any other Act of Parliament passed, or to be passed, whereby workman is defined by reference to the persons to whom the Employers and Workmen Act, 1875, applies.

12. The enactments described in the Second Schedule to this Act shall be repealed as from the commencement of this Act within the United Kingdom.

Provided that this repeal shall not affect—

- (1.) Anything duly done or suffered before the commencement of this Act under any enactment hereby repealed; or
- (2.) Any right or privilege acquired or any liability incurred before the commencement of this Act, under any enactment hereby repealed; or
- (3.) Any imprisonment, fine, or forfeiture, or other punishment incurred or to be incurred, in respect of any offence committed before the commencement of this Act, under any enactment hereby repealed; or
- (4.) The institution or prosecution to its termination of any investigation or legal proceeding, or any other remedy for prosecuting any such offence, or ascertaining, enforcing, or recovering any such liability, imprisonment, fine, forfeiture, or punishment as aforesaid, and any such investigation, legal proceeding, and remedy may be carried on as if this repeal had not been enacted.

## FIRST SCHEDULE.

| Chapter.                      |     | Savings Banks.  |
|-------------------------------|-----|---|
| 24 & 25 Vict., c. 14          | - - | Post Office Savings Banks.                            |
| 26 & 27 Vict., c. 87          | - - | } Trustee Savings Banks.<br>} Seamen's Savings Banks. |
| 17 & 18 Vict., c. 104, s. 180 | - - |   |
| 19 & 20 Vict., c. 41          | - - |   |

## SECOND SCHEDULE.

(17 &amp; 18 Vict., c. 104, in part.)

The Merchant Shipping Act, 1854,

in part: namely,

In Section 243, sub-Section (1), the words “to imprisonment for any period not exceeding twelve weeks, with or without hard labour; and also,”

In Section 243, sub-Section (2), the words “to imprisonment for any period not exceeding ten weeks with or without hard labour, and also at the discretion of the Court.”

Section 246.

In Section 247, the words “instead of committing the offender to prison;”

And Section 248.

## BRITISH SEAMEN.—PAST AND PRESENT.

THIS is a subject which would require an abler pen than mine, but being a sailor of the old school, and one who has had to do with the calling in all the phases through which it has passed into the new school, and hearing continually from all quarters the cry of deterioration, I would desire to enquire from whence it arises, how it is shown, and how it can be best remedied? The assertion that the present generation of seamen are not as the past, is no proof of deterioration.

1st. We will enquire from whence such arises, and in order

to do so we must go back to the old school of ships and the old school of training seamen, and take all the old machinery into the account. Ships were all wooden and were differently constructed and rigged, the rigging which was of rope was executed by the seamen, not only was the standing and running rigging rope, but cables were also of rope, all requiring continual care and watchfulness whether in use or not, different altogether from that now needed. Seamen were then made by serving an apprenticeship extending from five to seven years, according to the age at which they were bound, so as to end their apprenticeship at the age of 21. They then served their time among the seamen either in the half-deck, or fore-castle, according as the case may be, the residence of the vessels then being more in the half-deck than in the fore-castle, the ships being all flush, the fore-castles being kept for the cable-teer, boys were then kept in their proper place, and knew the way in which a ship was handled, and how all the work about her should be executed. They were moreover taught to keep watch. No man or boy would have ever thought of going below in his watch on deck, no matter how many hands. Every boy was brought up to consider he had to look out for dangers, that is, to look out for ships on all sides as well as land. Every sailor's eye was then a side-light, and he was carefully impressed with the dangers to which his life was every moment exposed. Hence the fact that there were no melancholy collisions, although a much greater number of vessels were often brought together than are ever now, and having to have recourse to all manner of manœuvres to escape collisions, the lead was then the leading light, and in the most of cases the chronometer lads were therefore taught to heave the lead and it became their chief delight to learn all about it, in fact the ship was made their home, their pride. And such was chiefly owing to the treatment they received. They were looked upon as comprising the noblest portion of the nation's



community, and which no doubt they were until they were degraded by law, but with all their training and all their powers of endurance of which we now hear so much, I feel convinced and speak with caution, when I say that the British seamen of the past generations could in no way handle the present style of ships. The difference between the vessels of the past and the present is as great as that between the light from the farthing candle and that of the electric flame. Therefore I hold the present generation of British seamen far exceeds the past. Having thus endeavoured to show how the former race of seamen were raised and taught let us look at the present, and what is their training. And in order to come at such we must again go back for a period of years when the seamen of Great Britain were first placed under the Registration Act of 1845 which drove thousands of the best of our British seamen from their homes and country to seek employment in other callings, rather than be subject to such conscription. Even masters and officers went to the coal pits in the North of England, rather than submit to carry a register ticket. That being the thin edge of the wedge, and the men having so far abandoned their calling, and the vessels having to be supplied with crews, shipowners began to cry out for all restrictions to be taken off, consequently the restrictions of the number which composed the crew according to tonnage was taken off and the employment of foreigners was permitted. Then the cry for the abolition of apprenticeships, and that was conceded, hence the introduction of ordinary seamen who are neither men nor boys, and who the seamen of that day disdained and would not teach but looked upon with contempt. The next cry raised was for compulsory examination of masters and officers, and the placing of the whole of the Mercantile Marine under the power of the Board of Trade. While all this was going on science was adding its contribution to the alteration, steam was making rapid strides, vessels were being fitted

with steam working and other patent apparatus whereby labour was reduced and men were not required. Vessels were thus propelled against both wind and tide, and it was found necessary to mark all the dangers to which they were exposed, hence the increase of lights on every danger enabled vessels to make straight courses from place to place, and the lead has almost been laid aside so that the men engaged have no practice in that or in any other manœuvre. Thus the coal coasting Baltic and Mediterranean trades, which were the chief nursery of the British Mercantile Marine, perished in a day.

The vessels of that period registering from 100 to 300 tons would carry crews of from 6 to 16 hands, but the ships of the present day which register from 1,000 to 3,000 tons carry no more; hence, where is the proof of deterioration? A sailing ship of 600 tons register, when I was first an officer, out of London, in the East India trade, carried 32 hands, independent of stewards and cuddy servants, which is more than a 2,000-ton ship carries to-day. Then it was thought good and smart work to make a Calcutta voyage in twelve months, now a sailing ship does it in seven months and the vessel is of three times the size, and with one-third less crew. Allowing for all patents and modern improvements, where is the comparison to be made? Not surely in the duties executed, so that in this respect the present generation of British seamen must be held to exceed the past. Having endeavoured to show how the past and present generations of British seamen have been trained and the difference between both the men and vessels, let us next enquire how it can be best remedied. Surely no one would admit it would be wise to go back to protection again or ask for compulsory law of either manning the vessels or of carrying apprentices, yet the apprentice system is the only one which will ever teach men a calling like that of the sea, as it should be. The owners as well as masters must feel that they have had

enough of red tape as regards the management of their affairs, and that it would be better for them, if it were not so ; but then it must be remembered that it was the ship-owners seeking. Not so the shipmasters and officers, with whom it was compulsory, and continues to be so. Yet by this time the shipowners as a body should have learned experience. The last 25 or 30 years should have produced sufficient evidence to satisfy all reasonable minds that the action of placing the Board of Trade between the shipowner and his servants, equally as placing the shipping (or Mercantile Marine officials) between the shipmaster and his servants, has only created a gulf of separation in each case which all the engineering skill to be found in the steam fleets of our gigantic Mercantile Marine will be unable to bridge over. The fact of thus placing the sole power of the Mercantile Marine into the hands of the Board of Trade has been the cause of all the deterioration to be found in our present race of seamen, such deterioration being it is sad to say, more in morals than in ability. Where do the present seamen learn their duty ? In the smoking-room of a sailors' home, or, worse still, in the waiting yard or back slum of a shipping office, which is not to be equalled to a slave, or cattle market, but is much more degrading to behold.

It is an old adage that union is strength, and if shipowners would unite with shipmasters, seeing it is a fact that, is inevitable, therefore becomes indispensable, that the one cannot do without the other, why can't they be brought into conference, and agree on rules just and adequate to govern them, in every respect under the general laws of the nation without special legislation. This can be done with other systems and bodies, and there can be no reason why it should not be so with the shipping interests ; in such a conference all necessary arrangements could be made through the practical knowledge and interests of those most deeply concerned with regard both to manning and loading of vessels, and



all other things connected with them ; such a conference of shipowners and shipmasters whose experience in all matters connected therewith, composed of delegates from all parts of the United Kingdom, would be more capable of coming to a right and just understanding of all the necessary requirements, and one may venture to say that in such an assembly, it would be most carefully proved that ships are now undermanned, that to establish an apprentice system voluntary unison among themselves with an efficient number of seamen and apprentices, would effect more for the good and safe navigation of our merchant fleets than all the red tape in the world.

DAVID MOORE.

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## COLLISION BETWEEN "HYDASPES" AND "CENTURION" S.S.

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ON the 17th July, at about 5 p.m., the ship *Hydaspes*, bound for Melbourne, in command of Captain E. S. Babot, came into collision with the s.s. *Centurion* during a dense fog and foundered in half-an-hour 3 miles E. by N. off Dungeness. She had left London early that morning in tow of the tug *Napoleon*, and at the time of the collision was proceeding at a very moderate speed, and those in charge were exercising every vigilance for the promotion of safe navigation during the fog.

The knowledge of the steamers proximity was derived from a very faint whistle heard a little on the starboard bow, and the time which elapsed between this and the collision was so brief that nothing could have been done to avert the casualty.

It soon was apparent that the blow sustained by the *Hydaspes* was fatal, and therefore attention was at once directed

to the transfer of passengers to the *Centurion* from whence they were shortly afterwards sent ashore.

A more ordinary case of collision could scarcely be quoted and it was apparent to all nautical men that the casualty could not be attributed to any neglect of duty.

A letter appearing in the columns of the *Times*, from one of the passengers, casting reflections upon the character of the officers and crew of the *Centurion*, no doubt rendered it necessary, in the public interest, that an official inquiry should be instituted, and accordingly proceedings were commenced on the 11th August, before the Wreck Commissioner at Westminster. After an inquiry lasting four days, the judgment was delivered, and was in effect that neither vessels were to blame, and that the casualty must be attributed to the density of the fog that prevailed.

The judgment, which occupied nearly an hour, was delivered in the style common to the Wreck Commissioner, and we therefore consider it advisable to place it before our readers.

The COMMISSIONER, in delivering the judgment of the Court, said there was no charge against the owners of the *Hydaspes*. It was true that in the cross-examination some suggestions were thrown out that the *Hydaspes* was an old vessel, and he presumed it was intended to imply that her plates were so rotten that it was only a very slight blow that caused her to be cut down as she was. But they had heard that, although she was built in 1852, when plates of iron vessels were sometimes better than they are now, Lloyd's book showed that she was now classed as A 1, which implied that, although not built under Lloyd's rules, because there were at that time no Lloyd's rules for iron vessels, she satisfied the surveyor, by whom she was put through a severe survey in 1879. The first question asked was as to the deck cargo of the *Centurion*. The bales of grass were 2 ft. 1 in. or more high, and there were two tiers of them, and

he was informed by the Assessors, who had themselves carried esparto grass, that hydraulically pressed, as in this case, grass would lie evenly, and the evidence was that in no part of the ship did the esparto grass rise above 4 ft. 3 in., except three or four bales just forward of the foremast, which could not interfere with the view from the bridge, seeing that the forecastle itself was 7 ft. above the deck. The evidence was also that the esparto bales rose 3 in. above the vessel's rails, but not so as to interfere with the navigation of the ship. Whether or not they interfered with the crew in going from one part of the ship to another, they certainly did not bring about the casualty on this occasion. Did the ships go at a moderate and proper rate of speed? By the 16th article of the Rules for Preventing Collisions at Sea, every steamship, when in a fog, is to go at a moderate speed. The *Hydaspes* passed Dover Pier at 2.20 p.m. The place of the collision was 14 miles further. Her full speed in tow was six or seven knots. She had  $2\frac{1}{2}$  hours to do the distance, and there was no reason why, during the first two hours, she should not have gone full speed, and during the first  $1\frac{1}{2}$  hour she had an easterly tide in her favour. There was nothing, therefore, to show that she was not going at a moderate and proper rate of speed; and the evidence was that the tug's engines were shortly before the collision slowed to dead slow—a statement which was distinctly proved, first, by the evidence as to the ship's lead, and next by that of the lead which Mr. Wyke used in fishing. As to the *Centurion's* speed, the evidence was that the pilot was taken on board at a place where the Newcombe buoy bears N.W. half to three-quarters of a mile off. She had an easterly tide, and, considering that the distance was done in 18 or 20 minutes, that would give her  $4\frac{1}{2}$  knots in the hour; deducting one knot for tide, that would give her  $3\frac{1}{2}$  knots an hour. For a third of the time before the fog became thick



she was going half speed,  $4\frac{1}{2}$  irrespective of the tide. There was every reason to suppose that from the time the pilot came on board she was not going at an immoderate speed, and that after she entered the fog she was going slow—two or three knots an hour. The Court could not, therefore, blame either for having gone at an excessive rate of speed. With regard to the course of the *Centurion*, the pilot steered E.N.E., which would be a proper course for the purpose of making Dover Pier in order to signal to the shore, and did, in fact, pass within a cable's length of the pier. The next question was whether each took proper steps to avoid collision after hearing the sounds from the other. The tug, going at the rate of two knots an hour, heard in succession three whistles—the first on the starboard bow, gradually coming further aft, and ultimately broad on the starboard beam. She did not alter her helm in any way. She continued her course till the *Centurion* appeared in sight. She saw the *Centurion* crossing her starboard quarter and heading directly for the *Hydaspes*, and thereupon the course she took was to cast off her tow-rope, and to starboard her helm, shouting to the *Hydaspes* to do likewise, as she did. The Court did not think that either of these vessels could have done otherwise. The *Centurion* heard the whistle on her port bow. She immediately ported her helm. She heard another whistle, rather closer to her bow, and hard-a-ported, and she observed the tug just about the same time as she heard a third whistle. The order that was then given was at once to put the engines full speed astern. The order appeared to have been promptly obeyed, and, although the ships were too close for the collision to be avoided, the Court could not blame the *Centurion* so far as the management of her engines was concerned; but they did think that she was to a certain extent to blame, when she heard a faint whistle on her port bow, for at once porting her helm. Had she not done so, but waited until she heard the second whistle, she

would have found the whistle on her starboard bow, and she would at once have known, hearing as she did the fog-horn, that it was a tug towing a large vessel crossing her bows, and that to port in those circumstances was to run into danger. So far, therefore, as the measures taken when the two vessels were approaching each other were concerned, the *Hydaspes* did all she could to avoid the collision, and it would have been better for the *Centurion* had she not at once ported but waited to see what was the course of the other vessel. There was one point which belonged to the sixth question—whether the ships were navigated with seamanlike care. It seemed that the *Hydaspes* had out a tow-rope of 75 fathoms, and that there was a distance of something like 70 to 72 fathoms from the stern of the *Napoleon* to the bow of the *Hydaspes*, and it was admitted by everybody on board the *Napoleon* and the *Hydaspes* that the ship was invisible to the tug and the tug was invisible to the ship. The Court had had the evidence of a very skilful pilot, who had told them that his practice always was when a fog set in to shorten in his tow-line, and that was reasonable and what the Assessors thought a careful and skilful navigator would do. A vessel in tow should always keep the tug in sight so as to be able to regulate the course of both according to circumstances. Going at so low a rate of speed there could be no danger in having a tug only 20 fathoms a-head. He did not say that to have the tug within 20 fathoms was a course always to be followed, but did say that in a thick fog it was a matter of the utmost importance that the tug and the tow should be within sight and instant communication of each other. No doubt a vessel could be towed more easily and better with a long tow-rope, but in this case the vessels were going very slowly and could easily get out of the way if any danger arose. *The Court thought, therefore, that in that respect the navigation of the Hydaspes was not conducted with proper and seamanlike care and skill, and that she ought when a thick*

*fog set in to have shortened the tow-rope to about 20 fathoms.* The last question was whether any blame attached to the masters, officers, engineers, or pilots. There was no blame attached to those on the *Napoleon*. She kept a good look-out and reported to the *Hydaspes*. The fault of not shortening the tow-rope lay with the master of the *Hydaspes*. As regarded the *Centurion*, the speed at which she was going was not an immoderate speed for the state of the weather, and he was told by the Assessors it would be positively dangerous to have altogether stopped her. She was going as slowly as she could, and it was better to keep her under way and under command than to have stopped her altogether. The master had, therefore, no right to interfere with the pilot. The pilotage being compulsory, any blame attached to the *Centurion* for navigation must rest with the pilot. They were asked by the Board of Trade to deal with the certificate of both captains. So far as the captain of the *Centurion* was concerned, no blame attached to him. As regarded the *Hydaspes*, the blame attached to the master was in their opinion of so very unimportant a character that they should never think of touching his certificate on that account. *No doubt a more skilful man would have shortened his tow-rope, but his neglect to do so was of such a nature that they should not visit it with any punishment.* They hoped, however, he would take warning by this case. As regarded the pilot of the *Centurion* they found him to blame for porting before ascertaining what the course of the other vessel was ; still they thought that the mistake he made was more an error of judgment and of comparatively so trifling a character that the Court trusted the effect of their judgment would not be the suspension of his certificate. There would be no order as to costs.

In our March number we drew attention to a return presented to the House of Commons relating to Board of Trade Inquiries, and from the abstract of total expenses per inquiry, when held by the Wreck Commissioner, it would



seem that the above verbose conglomeration will have cost the sum of £350. Whether the public will consider it good value we must leave it to the judgment of the Treasury, but we feel certain that no one will say it affords information of any import.

We have on previous occasions expressed our dissatisfaction with the proceedings of the Court at Westminster, and have drawn attention to the waste of time in the examination of witnesses upon points of no value whatever, it seems strange that no improvment is visible. The Inquiry, we believe, was instituted with the object of ascertaining the circumstances attending the collision between the two vessels on the 17th July, and, this being so, we should be glad to be informed whether the Assessors derived any practical information upon this subject from the examination and cross-examination of the tug-master and his mate, as to whether they had seen, on subsequent trips down Channel the light-vessel marking the wreck of the *Hydaspes*.

A strong point was made on behalf of the *Centurion* that the tow-rope employed by the *Hydaspes* was excessive. This, in evidence, was admitted to have been about 75 fathoms in length, and it is upon this feature of the case that we more particularly desire to draw the attention of our readers.

In the verbal judgment it was stated "that the Court had the evidence of a very skilful pilot, who had told them that his practice always was, when a fog set in, to shorten his tow-line to 20 fathoms."

We cannot but express great surprise that such a statement was made, for in this very case when an independent witness was put into the box to give his opinion as to the amount of damage sustained by the *Centurion*, the Wreck Commissioner gave it as his conviction that the evidence of an independent witness is practically useless, and here we have a record of the evidence given by a similar witness,

and upon which much stress is laid. We cannot credit the Assessors with having advised the Commissioner that 20 fathoms was reasonable, and "what a careful and skilful navigator would use," nor can we believe that they would commit themselves to fix a limit to a tow-rope, which must at all times be an open question, especially when such a quantity being a minimum is likely to involve great risks in other directions, and we may say very great risks, which tugowners would not be inclined to incur.

We hold the opinion that the views of the Assessors are not taken into sufficient consideration when judgment is delivered in their name. Were these gentlemen consulted, as they should be, the judgment would be concise, consistent, and free from any offensive remarks. The judgment would in fact be identical with the official report, and we should not find such expressions "what the Assessors thought a careful and skilful navigator would use," "No doubt a more skilful man, &c." Nor should we have heard the patronizing remark, addressed by the Commissioner to Dr. Phillimore (counsel for the *Centurion*), "that the witness (Captain Babot) had some knowledge of the stream."

Remarks such as the foregoing do not tend to inspire confidence, on the contrary, they strengthen the already firmly-rooted and apparently justified opinion, that there is a determination on the part of the Commissioner that, should it be impossible to touch the certificate, the master shall at least smart under a stinging judgment. It is against these verbal judgments we most emphatically protest, for we are bold to say that the Assessors do not concur in the unwarranted remarks made, and it is obvious that for decency sake they should not record their protest in open Court.

In the official report we find a lengthy paragraph referring to the tow-line, which no doubt is very satisfactory to the framer as representing the case of the *Hydaspes* in its worst aspect, and we extract the following:—"Taking the length

of the tug at say 60 feet, the length of the tow-rope between the vessels at 420 to 430, and the length of the *Hydaspes* at 263 feet, we get a total of nearly 750 feet or 250 yards covered by the tug and the *Hydaspes* which, in such intensely foggy weather as then prevailed, must have been a serious danger both to herself and to other passing vessels."

To the public generally this little calculation will appear very fair, but it is only right that we should supply some facts which have been omitted in the official report, and which are requisite to enable the public to test the accuracy of the figures.

The Court, it will be observed, commences its calculation thus: "Taking the length of the tow-rope *between* the vessels at 420 to 430 feet, &c.," but we have no intention of acting upon presumed figures, and we unhesitatingly say, that the length of tow-rope *between* the vessels was neither 420 nor 430 feet.

The length of the tow-rope, as we have previously stated, was 75 fathoms, but of this amount 8 or 9 fathoms were inside the hawse-pipe of the *Hydaspes* and 6 fathoms on board of the tug. The bowsprit, jibboom, and flying jibboom of the *Hydaspes* extended for a distance of 15 fathoms, consequently these amounts, which represent an aggregate of 30 fathoms, when deducted from the acknowledged length of tow-rope, leave the actual clear space *between* the vessels at 45 fathoms, and *not* 75 fathoms, or, if quoted in feet, 270 and *not* 430.

Having shown the length of the tow-rope to have been 45 fathoms, we would now inform our non-nautical readers that such an amount is the shortest length which is considered prudent. From enquiries made we are in a position to say that the statement "that it is the invariable practice among pilots to shorten the tow-rope to 20 fathoms when in a fog," is incorrect. We are assured by the tug-masters, numerous master mariners, and pilots, that in their experience



they have never known the tow-rope to be shortened to such a limit, and that moreover the assertion is absurd.

It is generally supposed to be the duty of a Court of Inquiry to furnish a clear and unprejudiced report of the circumstances relating to the case brought to its notice, and it is therefore difficult to say why such important facts should not have been communicated to the Board of Trade, for no one will say that the omission is immaterial.

As a specimen of consistency we place the decision prominently before our readers, and will leave them to imagine the opinions we have heard :—

"The navigation of the *Hydaspes* was not conducted with proper and seamanlike care and skill, she ought, when a thick fog set in, to have shortened the tow-rope to about 20 fathoms. . . . The blame attached to the master was of so very unimportant a character," &c., &c.

In conclusion, whilst sympathising with Captain Babot in the galling remarks addressed to him, we assure him that his reputation as one of the most skilful masters out of the Port of London is in no way tarnished by the ill-considered rebuke administered in the Court at Westminster.

To the Wreck Commissioner we earnestly recommend the careful perusal of a small work wherein will be found the following advice : "Give your decision, but if possible avoid giving the reasons for it. Your decision is probably correct, your reasons most probably incorrect."

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## CORRESPONDENCE.

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 "HYDASPES" AND "CENTURION" COLLISION.

*To the Editor of the "British Merchant Service Journal."*

SIR,—You will find the following in the Official Report of the inquiry into the collision between the *Hydaspes* and *Centurion* :—

"The *Hydaspes* in one point appears not to have been navigated with proper care. It seems that she had about 75 fathoms of tow-rope out, and that there was a distance of something like 70 to 72 fathoms between the stern of the tug and the stern of the *Hydaspes*."

I would ask you, Sir, if it is a fact that the *Hydaspes* whilst going down Channel on her ill-fated voyage was being towed as stated by the Wreck Commissioner, stern foremost.

Yours truly,

A LAND LUBBER.

[We have referred to the Report, No. 705, page 3, para. 1, lines 8—14, and find our correspondent has correctly quoted them, and we thank him for having drawn our attention to the point, as we now understand how it was the look-out on the fore-castle was unable to see the tug, and we realize the fact which the learned Commissioner very justly points out, that there would have been no danger of the tug being run down.—ED. B.M.S.ſ.]

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OFFICIAL INQUIRIES WHERE  
Reported since

| Ship.                            | Casualty.   | Loss of Life. | Inquiry.  |
|----------------------------------|---|---------------|---|
| <i>Amelia</i> , s.s. ... ..      | Lost near Laccadive Islands, 4th April, 1880.                     | ...           | Cochin :<br>22nd May, 1880.                     |
| <i>Jessie Boyle</i> ... ..       | Stranded near Cape Antonio, 12th May, 1880.                       | ...           | Cardiff :<br>R. O. Jones,<br>14th July, 1880.   |
| <i>Quail</i> , s.s. ... ..       | Stranded on Coast of Wigton, 25th July, 1880.                     | ...           | Glasgow :<br>17th August, 1880.                 |
| <i>Caroline</i> ... ..           | Stranded upon Fiddra, 18th July, 1880.                            | ...           | Leith :<br>J.P.'s,<br>6th August, 1880.         |
| <i>Edith Hough</i> , s.s. ... .. | Stranded off Gothland, 6th July, 1880.                            | ...           | Liverpool :<br>Mansfield,<br>25th August, 1880. |
| <i>Cadzow Forest</i> ... ..      | Stranded off Port Mathurin, Island of Rodrigues, 6th April, 1880. | ...           | Mauritius :<br>Marine Board.                    |
| <i>Armenia</i> ... ..            | Stranded at Amherst, British Burmah, 10th April, 1880.            | ...           | Moulmein :<br>21st May, 1880.                   |

THE STEAMSHIP "MARLBOROUGH."

SUMMING-UP OF THE JUDGE WHO PRESIDED AT THE PROSECUTION OF THE OWNER OF THE S.S. "MARLBOROUGH."

THE QUEEN V. DAVID PARKINSON GARBUTT.

**L**ORD JUSTICE BAGGALLAY: Since the Court rose on Saturday, I have had an opportunity, which I have availed myself of, of going very carefully over the whole of the evidence which has been given in this case on the part



# CERTIFICATES HAVE BEEN DEALT WITH.

1st August, 1880.

| Nautical Assessors. | Finding of Court.               | Decision.   |
|---------------------|---------------------------------|---|
|                     | Neglect.                        | Master's certificate suspended for 6 months.        |
| Anderson.<br>Clark. | Master in default.              | Certificate suspended for 2 months.                 |
| Murdoch.<br>Cowie.  | Unseamanlike navigation.        | Master's certificate suspended for 3 months.        |
| Murdoch.<br>Cowie.  | Master in default.              | Certificate suspended for 3 months.                 |
| Wilson.<br>French.  | Careless navigation.            | Chief Officer's certificate suspended for 6 months. |
|                     | Gross neglect and carelessness. | Master's certificate suspended for 9 months.        |
|                     | Great want of judgment.         | Master's certificate suspended for 6 months.        |

of the prosecution, and the evidence which was given by the defendant on Saturday, and I have come to this conclusion, that it is my duty to suggest to you now, whether, without considering the question whether the ship was sent to sea in an unseaworthy state, you see any prospect of leading the jury to the conclusion that the defendant did not use all reasonable means to ensure her being sent to sea in a seaworthy state.

Gentlemen of the Jury: The defendant is indicted for having, on the 29th November last, sent, or been party to sending,

the British ship *Marlborough* to sea in such unseaworthy state that the lives of the persons on board of her were liable to be thereby endangered.

Now, in determining whether a person who is charged with an offence of this nature is guilty or not, two questions have, or rather may have, to be considered. The first is whether the ship was in such an unseaworthy state that the life of any person was likely to be thereby endangered. If it is answered in the affirmative, that the ship was sent to sea in such an unseaworthy state, then the second question would be whether the person so charged used all reasonable means to ensure her being sent to sea in a seaworthy state. As a general rule, the first of these questions should, in the first place, be investigated and answered, but it may happen, and I think the present is a case in which it has happened, that it is reasonably clear that the answer to the second question should be in favour of the person who is charged, namely, that he has used reasonable means to ensure her going to sea in a seaworthy state, and if you are satisfied upon that point, it really becomes unnecessary to consider, except as a matter of science and perhaps a matter of interest, whether she really was in a dangerous condition or not.

A ship may be unseaworthy in several ways. There is no definition of the words "seaworthy" or "unseaworthy," to be found in the section upon which the prosecution is based, but I think there is a sufficient indication of that in the 6th section, where there is a definition of what is considered to be unsafe. It may be unsafe by reason of "the defective condition of her hull, equipments, or machinery, or by reason of overloading or improper loading." There are various modes in which she may be unfit for sea, and the cases which have arisen before this one, and there have been several, have generally been cases where the defect has been in the condition of the ship. I think in almost all of them, and I am not aware that this question has yet arisen, certainly not in any

case the circumstances of which have come under my consideration, where the alleged unseaworthiness consisted in the ship being overladen or improperly laden. However, if it is necessary so to hold, I should hold that the improper loading, or the overloading of a ship, would be sending her to sea in an unseaworthy state, and that is substantially the question we have to consider on the present occasion.

Now I pass on to consider another provision of the Act of Parliament which has been the subject of comment, and upon which a speech has been addressed to you, and to which the evidence has been directed, namely, what is called the load-line, or the Plimsoll-line of the ship. Now the Act provides that upon every British ship, such as the one we are now dealing with, there shall be painted on her sides a circular disc of 12 inches in diameter with a line drawn through the centre of it, and that is to be of a colour easily recognisable; it is to be either white or yellow on a dark ground, or black when the vessel is of a light colour. Now the object of that is, not to show to what depth the ship is loaded, but it is to indicate the maximum load-line in salt water to which the owner intends to load his ship for the particular voyage. As it were, the shipowner reserves to himself the right, as far as regards that particular voyage, to load up to that line. The line is to be maintained during the whole of that voyage, and it may be altered between the voyages, but the owner puts that on his ship for the purpose of indicating the maximum load-line to which he intends to load his ship during the voyage, and that, of course, indicates to the crew, so far as they are capable of understanding it, and it communicates to the official of the Board of Trade, and the Customs, and the other officers at the different ports, to what extent the owner reserves to himself the right to load, and if he loads up to that he takes upon himself all risk of whether the ship is overloaded or not; it is a matter of his own discretion, and he can place the load-line



wherever he pleases. Not only that, but the master is also obliged to enter a copy of that in the agreement which the crew sign, so that the crew have an opportunity, at least, of becoming aware exactly what the distance is in feet and inches of the deck-line from the line of the disc.

I think it right to direct your attention to the circumstances of the contract itself. Mr. Campbell, who represents the shipbuilders at Sunderland, and under whose immediate inspection this ship was built, states that the contract was, and in effect the contract itself states that it was, to build a large iron steam vessel which should have a 5-feet side or freeboard, when loaded with 3,200 tons. Now, that is the general nature of the contract. I may mention that the word freeboard has been used in two different senses. There is the true meaning of the word freeboard which should represent the perponderating difference between the plane in which the ship floats, and the deck which is above it, that is the clear side. That is the true freeboard in the sense in which Mr. Campbell used it in his evidence; but no doubt it has become common to use the word "freeboard" as applied to the distance between the load-line and the deck. Assuming the vessel to be loaded to the load-line, it would be correct, but still it is very commonly used (and that explains possibly some conflict between the different portions of the evidence) to represent the distance to which the centre of the disc is placed below the upper deck. In the first place, the contract is in terms that the ship shall have a 5-feet freeboard, or clear side, as due to 3,200 tons on board. The defendant consequently had that information before him. Mr. Campbell says that, in his opinion, the vessel ought to have had a 5 feet 6 inch clear side of freeboard, but Mr. Campbell did not state that he had in any way communicated that view which he entertained, either to the defendant or the gentleman who was superintending the building of the ship for the defendant, and the defendant himself expressly denies

that he ever received any such information. However, you start with this, that in the first instance the vessel was contracted to be built with 5 feet freeboard. Now, as regards the building of the ship, I think you must have been satisfied, from the evidence given to you, that she was built as strongly, and as well, as a ship of that class could be built, and no expense was spared on the part of the defendant in having her built, not only with the strength which Lloyd's Register required, in order that she should be classed as she was classed, but additional strength was given to her. I think Mr. Blakeney, who was called as a witness for the prosecution in this case, said she had several elements of strength beyond Lloyd's requirements. "A large amount was paid in respect of extras, and from first to last no expense was spared to make the *Marlborough* a good sea vessel. The defendant never spared any expense in keeping the ship in proper repair." Further on he said, "Until after the *Marlborough* was lost no official ever suggested that the disc had been put at an improper place. The defendant intimated that although the disc was placed at 4 feet, it was never his intention that the ship should be loaded to the 4 feet line." Then he says, further on, that he never knew the defendant to go contrary to the advice of Captain Fisher or Captain Fulham. One of the witnesses for the prosecution, Mr. William Henry Turner, who is the principal shipwright's surveyor for wooden ships to the Board of Trade, finished his evidence by saying, "I should call her, as far as construction and materials were concerned, a very splendid ship." But, gentlemen, it does follow that because the ship may be built very well indeed, with every improvement, with everything done to strengthen her, to make her a good sea boat in that respect, that a person actuated by a greed for gain might nevertheless overload her, and in other respects send her to sea in an unseaworthy state. But you have this element to start with that the ship was in itself

thoroughly well built and well found, and in that respect this case differs materially from certainly the majority, if not all the cases which have been brought under the consideration of criminal courts.

Now the defendant does not appear to have rested upon that circumstance alone. He applied to the Board of Trade with reference to another ship that he was building, a ship called the *Eastbourne*, a ship of similar character in almost every respect, differing in only a foot in length, I think, from the *Marlborough*. He applied to the Board of Trade with reference to the subject of the load-line, and he receives this reply:—"Gentlemen, in reply to your letter of the 5th instant, requesting information with respect to the requisite freeboard to the steamship *Eastbourne*, and as to what officer under Mr. Perkins should be subpœnaed in the case, I am directed by the Board of Trade to inform you that they do not advise the owner or master of a ship as to the freeboard of their vessel, nor are there any rules or regulations published by the Department on the subject. As regards the Board's officers, I am to inform you that it is not their duty, nor have they any power or authority to state what is the minimum freeboard which the vessel can have without risk or danger." Now I think that is an important letter, so far as regards the conduct of the defendant. I do not, for one moment, say that the Board of Trade acted wrongly, or improperly, or out of their duty in sending that reply. It is not for the Board of Trade to fix these matters; but I am only alluding to it because it appears to me to show a desire, on the part of the defendant, to obtain information from the highest authority he possibly could, for the purpose of getting information upon the very subject, and it was not given to him. At this time, it will be remembered, he had got the one ship with the disc at 4 feet 6 inches, the *Marlborough*, and the other ship, the *Eastbourne*, was at 4 feet. I merely refer to this as evidencing the desire,



upon his part, to ascertain what would be right and proper. In addition to that, he took another precaution, as far as regards the ship generally; that is to say, he always had one of his officers, and sometimes two of his officers, persons holding masters' certificates. From first to last not one of these officials had made any complaint whatever. I have said before, on the official log of January, 1879, the disc was returned as at 4 feet 6 inches. On the official log of the second and third voyage it was again returned to the proper officers at 4 feet. It must have come under the cognizance of those competent to form an opinion whether that was too much or not. They might raise an objection, for not only had they got the disc at 4 feet and 4 feet 6 inches given them, but they had her draught of water on each occasion given them also. They had 22 feet forward, and 23 feet aft on the first voyage, 23 feet 7 inches forward, and 23 feet 6 inches aft on the second voyage; 23 feet 3 inches forward, and 23 feet 6 inches aft on the third voyage; so the disc gave them a distance of 4 feet. If the 3-inch rule was to apply with respect to the measurements given on the official log, it does seem somewhat strange that the officials into whose hands this officially came made no communication, or took no steps for the purpose of seeing whether the ship was properly or improperly manned, or properly or improperly loaded, whatever might be her work. Again, I do not say it was the duty of the officials to interfere; they probably have a great many things to do, and do not interfere unless somebody puts them in motion, which is very often the case with reference to a public body; but certainly here are circumstances to authorise the defendant in thinking that nothing more was to be done, when he found that those officials, who certainly had the power of interfering, allowed the ship to go on voyage after voyage, without communicating about it at all. But it does not rest upon the official log alone, because it appears upon the evidence that at Cardiff, from which port three of the

voyages commenced, the last three voyages, there were four of the Board of Trade officials, all of whom were at Cardiff at the time, I presume, or some of them at least, when the ship was loaded and entered upon her voyage, and left that port. Surely one of the first thoughts would have been, if there was anything wrong about the vessel, or suspicion as it is suggested, this line being seen by everybody, one would have thought those officials would have interfered. Again, I say, perhaps they are not bound to interfere, and it may not have been their duty to interfere, but at any rate the defendant might reasonably suppose, if there was no interference at all, that there was nothing whatever wrong in his acting upon that which he represented himself as claiming a right to do, namely, to load up to the 4 feet 6 inches for the first voyage, or 4 feet on the next. Not one of those officials has been called, therefore we have no information on the part of the prosecution as regards the general nature of the loading, or the manning of the ships going out from Cardiff. Most of the witnesses who have been called drew their experience from other ports than Cardiff, but the observation I have just made is not confined to Cardiff alone. This vessel was at Shields and in London ; the vessel was in Liverpool on one occasion, and no official of those places has been called. She was a vessel which was calculated to attract attention from her size and character ; but no suggestion ever comes from any officer as regards her having a load-line which would fix a point up to which, if loaded, she would be dangerous.

I have indicated these various matters which appear to me to suggest that you would hardly think it right to convict this gentleman on the assumption that he did not use reasonable means to ensure his ship going to sea in a seaworthy state.

One point, and one point more only, I desire to say a word upon, and that is with reference to the part taken by the

Board of Trade in these proceedings. You are aware that no prosecution of this sort can be undertaken unless by the Board of Trade, or with the sanction of the Board of Trade. The evil that the Act of Parliament was intended to guard against was a very great evil, an evil that it was extremely important to check as far as possible. Parliament, in passing this Act of Parliament, desired to interpose between a person charged and those who might seek to accuse him, and the necessity for the consent of the Board of Trade being given to any prosecution also confers upon the Board of Trade the power to prosecute if they thought fit, and I am far from saying that this prosecution ought not to have been instituted, particularly when you hear of a vessel leaving her port, parted with by her pilot a few miles only from the port she was leaving, never heard of again, every soul on board having gone down, no doubt it is a case which required investigation to some extent. We perfectly well know that the very strongest and the very best ships, manned by the best of crews, and commanded by the best of officers, have gone to the bottom and have never been heard of again. The mere loss of a ship does not add to the probability of whether she was unseaworthy or not, in my opinion, one way or the other. You would have had to try this question in exactly the same way if this ship had gone to Genoa and came back to this port, and the defendant had been tried for sending it to sea in an unseaworthy state, you would have had to try it upon the same merits. But the Board of Trade have a power under another section of the Act of Parliament to hold what is called a preliminary investigation. An officer is appointed under the Act, called the Wreck Commissioner, before whom the Board of Trade can institute inquiries with reference to the circumstances under which any casualties, including the loss of a ship, have arisen. As I mentioned before I have a copy of the Report of the Wreck Commissioner in my possession, but I have not read a line of



it. I presume that the circumstances were adverse to the defendant, or else this prosecution would not have gone on, but with that exception I know nothing of the report beyond that I am told that the defendant was subpœnaed before the Wreck Commissioner, and made statements which he was bound to make on oath, and the result has been that proceedings were taken before the magistrate, and this indictment has been prosecuted. I must confess it does appear to me to be a very harsh proceeding. If the Act of Parliament sanctions what has been done, or the rules made under the Act of Parliament sanction it, and what has been done has been entirely in accordance with these rules, of course nothing can be said against it, but it does appear to me to be an extremely hard and in many cases a very unfair thing to the owner of a ship that he should be called upon his subpœna, and that that Court can compel him to answer such questions as it may think right to ask him, and that those conducting the inquiry can compel him to answer questions which may criminate himself, and then to indict him for a criminal offence upon the basis of the evidence so obtained. I am ignorant of what the rules are which have been framed under the Act of Parliament, but I find amongst other things that a formal investigation into a shipping casualty shall be conducted in such manner that if a charge is made against a person that person shall have an opportunity of making a defence, yet he is to be called before the Court to furnish materials for a prosecution against him. However that may be the defendant gave evidence before the Wreck Commissioner, about which at present I am ignorant, and the result of the whole inquiry before the Commissioner I take to be that the Board of Trade were satisfied that an offence had been committed. If they were satisfied that an offence had been committed, I think there was no other course open than to prosecute, having regard to the report which was made by the Commissioner.

I have to make another observation with regard to the Board of Trade in this matter, and it is this. I think it may become a source of oppression if, when a criminal charge of this kind is made against a defendant, 15 expert witnesses are to be called one after the other for the purpose of giving evidence almost on the same subject, namely, what would be the proper freeboard for a ship of this description, and what should be the number of her crew. Besides, two or three other witnesses who have been in the ship on former occasions, no less than 15 persons knowing nothing, not witnesses to a single fact in connection with the transaction, have been called as expert witnesses for the purpose of giving evidence upon the point. I do not desire now to say anything with regard to the different views entertained by the various witnesses, because they all of them placed the freeboard at a larger amount than the actual freeboard in this case, according to the prosecution. I do not mean merely as to what the freeboard should be, or the mode at which to arrive at what should be a proper freeboard. We have the 3-inch rule adopted by a number of witnesses, and others took a variety of different means of ascertaining what the freeboard should be, some simply from their general experience, and having heard the description of the ship in Court. My object is not so much to refer to the character of the evidence as the amount of it—the number of these expert witnesses called, because I cannot help feeling to some extent the number of witnesses add to the weight of their testimony, and if on the part of the Board of Trade, who spend the public money, a large number of witnesses are called, it would rather press upon the defendant to produce, perhaps a like number, or something of the same number to defend himself, he having to make that provision out of his own pocket. I hope, in this present case, the defendant is a person of means, and upon whom such an expense may not fall so seriously as it might upon other persons, but you may have a comparatively

poor man called upon to meet a charge brought against him by a Government Department with all power to prosecute, but who has inadequate means, if not entirely without means, to meet it.

Gentlemen, I have thought it right to make these observations on the case. It is a matter of very great importance that strict regard should be had, and strict supervision should be had, over the sending of ships to sea, and if there has been an improper sending of this ship to sea on the four different voyages, I cannot help thinking that there must be a fault somewhere amongst the Board of Trade officials or the Customs officials. It is for you to say whether in this case the defendant is guilty or not.

The Foreman of the Jury: Not Guilty. I may say, my Lord, that we arrived at this conclusion immediately on hearing of the termination of the evidence for the prosecution. We consulted together, but we did not conceive that it was then our duty to intimate that opinion, but we were glad to hear your Lordship do so this morning.

Lord Justice BAGGALLAY: I am obliged to you for making that intimation, for it entirely agreed with the view I had formed; but from the reasons I have mentioned just now, I abstained from stating it at that time. Whatever costs I can give, I intend to give; I mean whatever the Act of Parliament authorises me to do. I do not for one moment suggest that it was not a proper case to be brought forward by the Board of Trade.

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THE  
BRITISH MERCHANT SERVICE  
JOURNAL.

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VISCOUNT SANDON AND THE BRITISH  
MERCHANT SERVICE.

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THE publication of the following most important letter from the Right Honourable Viscount Sandon, M.P., will, we know, give entire satisfaction to all masters and officers of the Merchant Service:—

“Sandon Hall, Stone,

“September 15th, 1880.

“B. F. Cramer, Esq.,

“*Secretary of the London Shipmasters' Society.*

“DEAR SIR,—

“The framed document to which your letter referred has reached me here. I beg you to convey my best thanks to the Shipmasters' Society of London, and to the kindred Societies of Liverpool, Sunderland, Hull, and Leith, for the very gratifying address which they have been so good as to send to me on the subject of the Act respecting the Inquiries into Shipping Casualties, which I had the honour of passing through Parliament last year as President of the Board of Trade.

“For some time before I was connected with the Board of Trade, I had been aware of the deep feeling of dissatis-

faction which existed amongst our Mercantile Marine Service with respect to the system under which Inquiries into Shipping Casualties were conducted, and also respecting the judgments of some of the Courts which had held them. I have had reason to know that leading men connected with the Shipping of the United Kingdom were so much impressed by the risk to which masters and mates were subjected of having the whole of their professional prospects ruined by the judgments of these Courts, from which there was practically no appeal, that they were dissuading young men, in whom they took an interest, from entering the Merchant Service.

“On becoming President of the Board of Trade, I made it my duty to watch carefully the working of this system, and, after giving myself more than a year, with the advantages my official position afforded for observation and consideration of its effects, I came to the conclusion that it was not only unjust and needlessly offensive to the Officers of the Mercantile Marine, but that, most unintentionally on the part of those who had framed it and who had administered it, would, unless promptly reformed, have the effect of lowering the tone and status of that great profession, which it ought to be the aim of all who value the Maritime and Commercial greatness of our country, to improve and elevate.

“Holding these views, it was a subject of much satisfaction to me, looking to the general interests of the country as well as to the just claims of the Merchant Service, to pass the measure last year to which your address refers. And I rejoice to think that we were able to secure for the future that there should be the right of appeal in all these cases from an inferior to a superior Court; that the Court which is to make the inquiry should no longer select its own Assessors; that two at least of the Assessors, when certificates may be affected, should be taken from the

Mercantile Marine, the appointments of the Assessors themselves being at the same time limited to three years (thus securing that the peculiar and ever-changing conditions of our Merchant Shipping should be fully represented in the Court), and that these inquiries should no longer be connected with the degrading associations of a Police Court.

“ In order, however, to make certain the complete success of the Act, it was necessary that the mode of appointment of Assessors by the Home Secretary should be put by him upon a new and more satisfactory footing, that special qualifications of service, as well as the appointment to each Inquiry as far as possible by rotation, should be arranged, and that careful regulations should also be laid down by the Lord Chancellor. I felt that so much depended upon these Rules and Regulations—which whenever made or changed, as I fixed in the Act, must be laid on the table of Parliament—that I did not hesitate to delay the coming into operation of the Act for a time, so as to put them on a satisfactory footing, which required careful and protracted negotiations with the Home Secretary and the Lord Chancellor.

“ It now gives me, I confess, great pleasure to know from your address that in the most important ports of the country this legislation has, after experience, been approved by the noble profession you represent, and also to hear from other and different quarters that, while the primary object of securing the public safety is quite as well provided for under the changes we have made, and while the character of the Inquiries is fully maintained and, in some cases, considerably improved, more confidence is felt in the judgments of the Courts, and the whole system of Inquiries into Shipping Casualties is brought more into harmony with the fair and just requirements of the Officers of the Merchant Service.

“ I have thought it well to place in your hands this



statement of my views, and of the reasons for my action, in case hereafter it should be proposed to revert in any way to the former system, by means of either new rules or fresh legislation.

“It only remains for me to request you to assure the Shipmasters’ Association of London, and the kindred Societies of the great ports, which have associated themselves with you, how highly I appreciate the kind feeling which has led them to communicate to me their satisfaction with my action in this matter, and how much I admire and value the beautiful parchment with its graceful and artistic illuminations, which has been the medium of conveying to me the gratifying expressions of their friendly sentiments.

“I remain, Dear Sir,

“Your very faithful Servant,

“SANDON.”

The document above referred to ran thus :—

“At this, the Annual General Meeting of the Shipmasters’ Society of London, held this 14th day of June, 1880, supported by the kindred Societies of Liverpool, Sunderland, Hull, and Leith :

“It is resolved to record the sincere gratitude which is felt by the masters and officers of the Mercantile Marine to the Right Honourable Viscount Sandon, M.P., who, by introducing the Merchant Shipping Casualties Investigations Re-hearing Act, has provided for a Court of Appeal, and by the re-constitution of Courts of Inquiry has removed many of their long-standing grievances.

“It is further resolved that the Committee of the Shipmasters’ Society be requested to take such steps, in concert with the kindred Societies, as may be considered desirable, in order that the above may be embodied and presented in a suitable address to his lordship, when duly signed by the kindred Societies.”

Here follow signatures of officers of the five Associations.

MERCHANT SHIPPING (CARRIAGE OF GRAIN)  
ACT, 1880.

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**A**N Act to provide for the safe carriage of Grain Cargoes by Merchant Shipping [7th Sept., 1880].

Be it enacted by the Queen's most excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

1. This Act may be cited as the Merchant Shipping (Carriage of Grain) Act, 1880, and shall be construed as one with the Merchant Shipping Act, 1854, and the Acts amending the same, and together with those Acts may be cited as the Merchant Shipping Acts, 1854 to 1880.

2. This Act shall come into operation on the 1st day of January, 1881 (which day is in this Act referred to as the commencement of this Act).

3. Where a grain cargo is laden on any British ship, all necessary and reasonable precautions (whether prescribed by this Act or not) shall be taken in order to prevent the grain cargo from shifting. If such precautions have not been taken in the case of any such ship, the master of the ship, and any agent of the owner who was charged with the loading of the ship or the sending her to sea, shall each be liable to a penalty not exceeding £300, and the owner of the ship shall also be liable to the same penalty, unless he shows that he took all reasonable means to enforce the observance of this section and was not privy to the breach thereof.

4. Where a British ship laden with a grain cargo at any port in the Mediterranean or Black Sea is bound to ports outside the Straits of Gibraltar, or where a British ship is laden with a grain cargo on the coast of North America, the following precautions to prevent the grain cargo from shifting shall be adopted ; that is to say—

(a.) There shall not be carried between the decks, or, if the ship has more than two decks, between the main and upper decks, any grain in bulk, except such as may be necessary for feeding the cargo in the hold, and is carried in properly-constructed feeders.

(b.) Where grain (except such as may be carried in properly-constructed feeders) is carried in bulk in any hold or compartment, and proper provision for filling up the same by feeders is not made, not less than one-fourth of the grain carried in the hold or compartment (as the case may be) shall be in bags supported on suitable platforms laid upon the grain in bulk: Provided that this regulation with respect to bags shall not apply—

(i.) To oats, or cotton seed; nor

(ii.) To a ship which is a sailing ship of less than 400 tons registered tonnage, and is not engaged in the Atlantic trade; nor

(iii.) To a ship laden at a port in the Mediterranean or Black Sea, if the ship is divided into compartments which are formed by substantial transverse partitions, and are fitted with longitudinal bulkheads or such shifting-boards as hereafter in this section mentioned, and if the ship does not carry more than one-fourth of the grain cargo, and not more than 1,500 quarters, in any one compartment, bin, or division, and provided that each division of the lower hold is fitted with properly-constructed feeders from the between decks; nor

(iv.) To a ship in which the grain cargo does not exceed one-half of the whole cargo of the ship, and the rest of the cargo consists of cotton, wool, flax, barrels, or sacks of flour, or other suitable cargo so stowed as to prevent the grain in any compartment, bin, or division from shifting.



(c.) Where grain is carried in the hold or between the decks whether in bags or bulk, the hold or the space between the decks shall be divided by a longitudinal bulkhead or by sufficient shifting boards which extend from deck to deck or from the deck to the keelson, and are properly secured, and, if the grain is in bulk, are fitted grain-tight with proper fillings between the beams.

(d.) In loading, the grain shall be properly stowed, trimmed, and secured.

In the event of the contravention of this section in the case of any ship, reasonable precautions to prevent the grain cargo of that ship from shifting shall be deemed not to have been taken, and the owner and master of the ship and any agent charged with loading her or sending her to sea shall be liable accordingly to a penalty under this Act. Provided that nothing in this section shall exempt a person from any liability, civil or criminal, to which he would otherwise be subject for failing to adopt any reasonable precautions which, although not mentioned in this section, are reasonably required to prevent grain cargoes from shifting.

5. The precautions required by this Act to be adopted by ships laden with a grain cargo at a port in the Mediterranean or Black Sea, or on the coast of North America, shall not apply to ships loaded in accordance with regulations for the time being approved by the Board of Trade; nor to any ship constructed and loaded in accordance with any plan approved by the Board of Trade.

6. Before a British ship laden with grain cargo at any port in the Mediterranean or Black Sea, bound to ports outside the Straits of Gibraltar, or laden with grain cargo on the coast of North America, leaves her final port of loading, or within 48 hours after leaving such port, the master shall deliver or cause to be delivered to the British Consular Officer, or, if it is in Her Majesty's dominions, to the principal Officer of Customs at that port, a notice stating—

(1.) The draught of water and clear side, as defined by Section 5 of the Merchant Shipping Act, 1871, and Section 4 of the Merchant Shipping Act, 1873, of the said ship after the loading of her cargo has been completed at the said last port of loading ;

(2.) And also stating the following particulars in respect to the grain cargo ; namely,

(a.) The kind of grain and the quantity thereof, which quantity may be stated in cubic feet, or in quarters, or bushels, or in tons weight ; and

(b.) The mode in which the grain cargo is stowed ; and

(c.) The precautions taken against shifting.

The master shall also deliver a similar notice to the principal Collector or other proper Officer of Customs in the United Kingdom, together with the report required to be made by the Customs Consolidation Act, 1876, on the arrival of the ship in the United Kingdom. Every such notice shall be sent to the Board of Trade as soon as practicable by the officer receiving the same. If the master fails to deliver any notice required by this section he shall be liable to a penalty not exceeding £100. Provided always, that the Board of Trade may, by notice published in the *London Gazette*, or in such other way as it may deem expedient, exempt ships laden at any particular port or any class of such ships from the provisions of this section.

7. Any master of a ship who in any notice required by this Act wilfully makes any false statement, or wilfully omits any material particular, shall be liable to a penalty not exceeding £100.

8. For the purpose of securing the observance of this Act, any officer having authority on that behalf from the Board of Trade, either general or special, shall have the same power as an Inspector appointed under the Merchant Shipping Act, 1854, and shall also have power to inspect any grain cargo, and the mode in which the same is stowed.

9. Every offence punishable under this Act may be prosecuted summarily, and every penalty under this Act may be recovered and enforced summarily in like manner as offences and penalties under the Merchant Shipping Act, 1854, and the Acts amending the same.

10. For the purposes of this Act—The expression "grain" means any corn, rice, paddy, pulse, seeds, nuts, or nut kernels. The expression "ship laden with a grain cargo" means a ship carrying a cargo of which the portion consisting of grain is more than one-third of the registered tonnage of the ship, and such third shall be computed, where the grain is reckoned in measures of capacity, at the rate of 100 cubic feet for each ton of registered tonnage, and where the grain is reckoned in measures of weight, at the rate of two tons weight for each ton of registered tonnage.

11. Section 22 of the Merchant Shipping Act, 1876, is hereby repealed as from the commencement of this Act. Provided that any offence against that section committed before the commencement of this Act may be prosecuted, and the penalty recovered and enforced, in like manner as if the said section had continued to remain in force.

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## THE "JOSEPH FERENS."—RE-HEARING.

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THE result of the re-hearing of the case of the *Joseph Ferens* before the Wreck Commissioner at Newcastle, affords another and the latest illustration of how an innocent shipowner may become a sufferer under the operation of the existing law relating to inquiries into wrecks and casualties. The *Joseph Ferens* was a steamship of 1,803 tons gross, and 1,176 tons nett register, and was owned by Mr. C. Hunting, of Newcastle-on-Tyne, and others. On the 29th of November last, the *Joseph Ferens* left the Tyne for Lisbon with a cargo of



1,862 tons 19 cwt., and 810 tons 2 cwt. of bunker coals, and with a crew of 27 hands all told. Since then the ship has never been heard of. An Official Inquiry was ordered, and was held by the Commissioner in February last, when the Court found that the *Joseph Ferens* had probably foundered in a gale of wind, that when she left the Tyne she was overladen and had not sufficient stability, but the Court, in coming to this conclusion, expressed the opinion that the evidence was so unsatisfactory that they had considerable difficulty in arriving at it. Two material witnesses were absent—one the gentleman who managed the vessel for the owners, the other the Board of Trade Surveyor who had passed the ship before she left on her last voyage. Against this decision the owners of the *Joseph Ferens* appealed, and the Board of Trade, acting under the powers conferred by the Act of last year, referred the case back to the Commissioner for a re-hearing. The Court at the re-hearing had the advantage of additional evidence, notably of that of the two witnesses above-mentioned, and whose testimony mainly led the Court to a reversal of its former decision. Captain Brunton, the manager, proved that the rule he adopted in fixing the position of the disc was to allow  $2\frac{1}{4}$  inches to the foot, and he gave it as his opinion that when the *Joseph Ferens* left the Tyne she was in a seaworthy condition and fit for any work, that the vessel had received a full cargo by the 27th of November, two days before she sailed, and that after the hatches were closed nothing more was received on board; while Mr. Ramsay, Board of Trade Surveyor, stated that he visited the vessel on the 27th, and found her in fair trim. Had it been otherwise he would not have allowed her to proceed to sea. "Seeing," said the Court, in reviewing this evidence and delivering judgment, "that this vessel had a freeboard of 5 feet on leaving the Tyne Dock, and 5 feet 2 inches as soon as she got into salt water, this gave her about  $2\frac{1}{2}$  inches of clear side to the foot, that she had a topgallant-forecastle and a raised quarter deck

aft, they thought that on this occasion the vessel when she left Tyne Dock was not overladen, and that certainly was not the cause of her loss. To what cause her loss was due, whether to collision or to any other of the accidents at sea, it was impossible for them to say; but, at any rate, they were unanimously of opinion that this vessel was sent to sea in a thoroughly good and efficient state, and was not overladen." A more complete exoneration of the owners of the charge of sending an overladen and unseaworthy ship to sea could not be conveyed in words. But, after succeeding completely in their appeal, the owners are left to pay their own costs. The reason assigned for the refusal of costs demands notice. That reason appears to have been that Captain Brunton, on the part of the owners, and Mr. Ramsay, on the part of the Board of Trade, were neither of them produced at the original hearing. Had they been, the inference from the recent decision, and the evidence on which it rests, is, that the finding of the Court would have been in favour of the owners, and that there would have been no appeal, and of course no re-hearing. But why were not these witnesses called at the previous inquiry? It was stated that Mr. Brunton was absent owing to domestic illness, but we are not aware that there was any reason assigned for the non-production of Mr. Ramsay, who, as a witness in exculpation of the owner, was by far the most material of the two. Had Mr. Ramsay appeared before the Court of Inquiry and stated what he has done on the re-hearing—there can be no doubt, with perfect truth—the owners would have left the Court exonerated from all blame, and in that case we do not see how the Court could have refused them their costs. Mr. Ramsay was the witness for the Board of Trade, and his evidence on a charge preferred by the department must have been conclusive as to the innocence of the owners. As it is, the non-appearance of the owners' manager on the inquiry appears to have been set off by the Court against the absence

of the Board of Trade Surveyor, thus affording a sufficient reason for refusing costs. And so the owners of the *Joseph Ferens*, who have, in the opinion of the Court, done nothing wrong, have to find the costs of two investigations, although they have succeeded in disposing of all the charges preferred against them. This may be the law—though we doubt it—but assuredly it is not justice.—(*Shipping Gazette*.)

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### IMPROVED MARINERS' COMPASS AND STELLAR AZIMUTH COMPASS.

(*Paper read before the Members of the Shipmasters' Society,  
30th September, 1880.*)

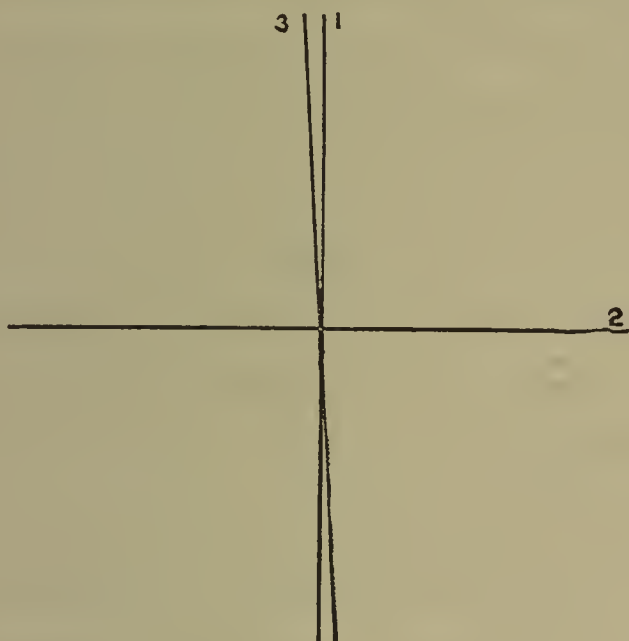
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MR. CHAIRMAN AND GENTLEMEN,—I feel like a witness being about to be examined, and that you are my jury. You are a body of practical seamen and navigators, and have all of you had vast experience, and so have I, and having taken great interest in the profession I have given my serious attention to matters relating to the compass, and I therefore feel you will listen to what I have to bring forward with interest, and I trust with approval.

It is not my intention in this paper to speak about the laws of magnetism with which every commander should be conversant ; laws which enable him to anticipate or foretell the change of deviation that will take place in his compass as he alters his geographical position, but to point out a mechanical error or errors of the compass, errors which are of great importance to the navigator and to those who travel by sea, errors to which far too little attention has been paid, and which I am convinced have been the cause of great loss of property and valuable lives. Every practical navigator, I think, will agree with me, that, as a rule, he does not make



the course he steers; when he does do so it is the exception and not the rule, but is generally to the right or left of where he should have been. Also that azimuths taken in the morning seldom agree with those found in the afternoon. To enable you to better understand what I mean you will please look at the following diagram :—



I have drawn two lines, Nos. 1 and 2, at right angles to each other, which will represent a centre of a circle. I have drawn a third line, marked No. 3, which is a little out of the centre, but so little that the eye can scarcely detect it, yet it is out a quarter of a point or more. Now, as the eye has great difficulty in detecting such a small deviation from the centre, I hold that it is almost an impossibility to bore a hole exactly in the centre of the bottom of the bowl of the compass through which is placed the pin on which the compass card floats. Let us suppose that such a centre could be obtained, then to maintain such a centre in the bowl the bottom of the bowl must be perfectly horizontal, for in proportion as it is out of the horizontal so the pin will be tilted out of the centre and gives rise to another error.

The usual method for observing azimuths at sea is by a shadow-pin supposed to be fitted exactly in the centre of

the glass which covers the compass card, and perfectly vertical over the point of the pin on which the compass card floats. I say, that according to the diagram I have shown you it is almost impossible to get such a mathematical centre, and is, of course, the cause of another error. Again, the little brass socket in which the shadow-pin ships must be bored exactly vertical, for should it not be so the shadow-pin will be tilted to one side in proportion as the hole is out of the vertical, and gives rise to another error. And, again, the plane of the glass, which covers the card, must be in the same plane as the card; should they not be, the shadow of the pin will be in error in proportion as the plane of the glass and card differ from each other, and which gives rise to another error. Consequently you see there arises, through an imperfect centre, a homogeneous mass of complications of error throughout the whole compass.

To correct this error, and give a perfectly mathematical centre, I have adopted the following principle:

The centre pin, upon which the card floats, is fastened to a plate which is placed in a sloat, in the bottom of the bowl, and made to move to right or left by screws, by which a perfectly mathematical centre can be got. Directions for adjustment will accompany the new compass.

The stars are as useful to the navigator at night as the sun is to him through the day, but for the want of proper instruments to observe them with they are almost disused.

This is a matter of great importance, especially for those in command of fast vessels and steamers.

It frequently happens that the sun is clouded throughout the day, but the stars shine out at night, and not having a suitable instrument to take observations the commander passes many hours of great anxiety, and often to his surprise finds himself in danger, if not in imminent peril. Feeling this great want, and thinking that something might be accomplished to alleviate the anxiety of those in command of vessels,

and to be a means of saving of life and property, I turned my attention to the improvement of the stellar azimuth compass. After many experiments and failures I at last succeeded. I have adopted a small lamp fitted under the bottom of the bowl of the compass. The light is conducted up a bent tube which softly illuminates a small space on the edge of the card about the size of a shilling directly under the prism, all the rest of the card being perfectly dark. Opposite the prism on the azimuth circle I have fitted a mirror, and by placing it at the required angle it reflects the star you wish to observe. Instead of the sight vane or fine wire which is generally used for cutting the centre of the sun, I use at night a stout wire which can be distinctly seen; this wire as you pass it across the image of the star will be observed to cut it, and make it appear like two stars. The subdued light does not diminish the brightness of the star, and enables one to read off the azimuth to a fraction of a degree.

There are two methods adopted for observing by standard azimuth compasses. The first is that the whole bowl is made to revolve on a centre. The second, the bowl is fixed and only the azimuth rim or sights are made to revolve on the edge of the compass bowl. Both of these methods are subject to error.

First method in taking observations: The "lubbers point" is moved from the ship's head, and to have this at the moment of observation you must compare it with another compass, which, through the motion of the ship, and the swinging of the compass, you cannot get correctly.

Second method: The moment you touch the azimuth rim to take your bearings you prevent the bowl from working freely on its gimbols, and prevent it from keeping its horizontal position. You will therefore have an imperfect bearing. To both of these methods we have made a great improvement, consisting of a vertical axis and a divided circle of degrees. When the observation is taken, the pointer



indicates the angle from the head of the ship, and gives in degrees the course of the ship at the moment of observation.

This compass is adapted for observing stars of the first, second, and third magnitude.

I have used it on a voyage to Australia and back to London. It works perfectly, and can be used with the stars as easily and as accurately as with the sun. The navigator is, therefore, for azimuth bearings, totally independent of the sun. Some of my passengers finding that the stellar azimuth could easily be used, would sometimes amuse themselves by taking observations.

The "Polar Star" is one of the most useful stars in the Heavens, for if the night is moderately clear you can find the latitude at any moment, with very little calculation. Its position is in the tail of the little bear  $1^{\circ} 27'$  from the pole. The diameter of its orbit is  $2^{\circ} 54'$  or it alters its bearing a little more than a quarter of a point. Saxby's spherograph, as with all the other stars in the Heavens, gives the true bearing to a fraction of a degree at any moment of the night without any calculation. The bearing of this star, "Polar Star," by the stellar azimuth, is at once the error of your compass. I have stated that it is the general experience of navigators that, as a rule, they do not make the true course they steer. I can now confidently state that since I have corrected the mechanical error as I have described to you, that when I do not make my course it is the exception and not the rule, and this deviation was caused through currents which I have proved by change of temperature of the water. Long experience and constant investigation have taught me that whenever you have change of temperature you have currents, and in proportion as the degrees of change of temperature are greatly increased or decreased so in proportion you will have less or more current.

I do not hesitate in saying that the majority of wrecks, strandings, or such casualties that have taken place have

been brought about more through the mechanical errors that I have pointed out, than through carelessness or want of attention on the part of the navigator.

It is a great advantage to have large cards for the man at the wheel to steer a steady course, but the standard azimuth compass ought not to be more than 6 inches in diameter. A 6-inch card is more steady than any other size. You can take your observations more easily and more correctly. This I have found by practical experiments.

A. LOUTTIT.

The members having carefully examined the compass as improved by Captain Louttit, and having expressed themselves greatly pleased with the same, the notice of the meeting was drawn to an invention by Captain Stavers which consists of applying fin rudders to act in conjunction with, or in case of necessity independently of, the main rudder of the ship or steamer, whereby in the first place the steering power is greatly increased, and in the latter the safe steerage of the vessel is provided for in case the main rudder is disabled or carried away, or the connections may be left out of gear so long as the main rudder answers its purpose, and instantly applied when the main rudder fails or extra steering power is required.

To effect this, a fin rudder is placed in each quarter of the vessel, below the water line as close aft as possible, in such a position as to act independently of, or without affecting the action of the main rudder, and of such proportions as will enable the vessel to be steered by them in case of damage being done to the main rudder, and they are so constructed as to avoid any impediment to the sailing of the vessel.

Recesses may be made the same depth as the thickness of the rudder, in such a manner as will not weaken the frame of the vessel, or they can be placed on the outside of the vessel, with a plate running forward in a line with the main

piece of the rudder, in such a manner as will not impede the progress of the vessel, and it will increase the strength of the quarter.

The rudder heads will come through the vessel's quarters in stuffing boxes, so as they can easily be made perfectly water-tight.

It is also intended that the fin rudders should be worked in conjunction with and under the same orders as the main rudder, with the ordinary wheel and gearing or steam steering gear on deck, or they can be worked on the iron flat.

Should the vessel strike the ground, these rudders will not easily be disabled, as the lower gudgeons stand some feet above the line of the keel.

Another advantage is, when the steamer is going slowly, and the engines frequently stopped, the suction from the blades of the propeller impedes the action of the main rudder; whereas the patent rudders from their being fitted in front of the propeller, and acting in solid water, have more power to guide the ship; and should the engines become disabled, these rudders would be of great advantage, as the ship would be under command from their extra steering power.

The fin rudders will be worked by the same wheel as the main rudder on deck, so that when the main rudder is moved the corresponding fin rudder will move in conjunction with it.

The CHAIRMAN (Captain Faithful) in proposing a vote of thanks to Captain Louttit for his interesting paper, and to Captain Stavers for having exhibited the models of his patent, said, the sincere gratitude of the service is due to all gentlemen who, by careful study, endeavour to lessen the risks sailors run, and to provide them with good instruments.

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## CORRESPONDENCE.

“ Shipmasters’ Society, London,  
 “ 16th September, 1880.

“ The Assistant-Secretary, Marine Department,  
 “ Board of Trade, Whitehall,

“ *Re* COURT OF INQUIRY ‘HYDASPES’ AND ‘CENTURION,’ S.S.

“SIR,—I am directed to inform you that the Committee of this Society have had their attention drawn to the judgment delivered by the Court at Westminster in the case of collision between the ship *Hydaspes* and s.s. *Centurion*, and they desire to record their unanimous opinion that the remarks there addressed to the master of the *Hydaspes* were most unjust and uncalled for.

“ Captain E. S. Babot is well known to be a most careful and skilful commander, and my Committee venture to submit that the evidence adduced proves that that gentleman was exercising every care for the safe navigation of his ship, and they moreover are of opinion that the amount of tow-line was reasonable.

“ The Court in its report states that the length of tow-line between the tug and the *Hydaspes* was about 70 or 72 fathoms, but it is remarkable that no allowance is made for the quantity inside the ship’s hawse-pipe and on board of the tug, nor is the extent of the bowsprit, jib-boom, and flying jib-boom taken into account.

“ These may be taken thus ;—

“ Inside the hawse-pipe 8 or 9 fathoms

“ On board the tug        6                    „

“ Bowsprit, &c.                15                    „

“ Or an amount of 30 fathoms, which, deducted from the 70 or 72 fathoms, would materially alter the appearance of the tow-line.

“ Correctly quoted it would be about 45 fathoms, and in

the opinion of my Committee an amount usually employed and prudent.

“Were a tow-line to be reduced to 20 fathoms as laid down by the Court, very serious risks would be involved, and my Committee cannot but express surprise that the Court should have committed itself to fix a limit to a tow-line.

“My Committee would be pleased to learn whether the Board of Trade is advised that the limit of 20 fathoms is invariably adopted by pilots when at sea in a fog, for in the opinion of this Society such practice would be highly dangerous.

“I am, Sir, your obedient Servant,

“B. F. CRAMER, *Secretary*.”

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“Board of Trade (Marine Department),

“Whitehall Gardens, S.W.,

“23rd September, 1880.

“The Secretary, Shipmasters' Society,

“Jeffrey's Square, St. Mary Axe, E.C.

“SIR,—I am directed by the Board of Trade to acknowledge the receipt of your letter of the 16th inst., expressing the opinion of your Committee as to the remarks addressed by the Court to the master of the *Hydaspes* (at the recent enquiry at Westminster, in the case of the *Hydaspes* and *Centurion*), with regard to the length of the tow-line; and asking whether they are advised that a limit of 20 fathoms is invariably adopted by pilots when at sea in a fog.

“In reply, I am to request that you will inform your Committee that the Board of Trade are not responsible for, and have no control over, the decisions and reports of the Wreck Commissioner's Court.

“Under the circumstances it would obviously be highly inexpedient for them to enter into any discussion of the merits of those decisions and reports.

“I am, Sir, your obedient Servant,

“GEORGE J. SWANSTON.”

## MAGNETIC ATTRACTION IN IRON SHIPS.

*To the Editor of the "British Merchant Service Journal."*

I take the following extract from an old newspaper, and venture to send it to you, Sir, in the hope that some correspondents who are competent to handle the question, will give your nautical readers the benefit of any knowledge they may have respecting the subject, as it bears the appearance of being a most interesting one to those in charge of iron vessels :—

“ Before the *Birmah* left England, Captain Witt read in a paper a suggestion to nullify the local attraction on board iron vessels by means of an earth compass, the simplicity of which is its chief recommendation. It was affirmed that a complete envelope of earth would so far perfect the attraction of the compass by the abolition or absorption of local magnetism, that deviation tables would be unnecessary. The *Birmah* was fitted with binnacle and standard compasses as usual, both of which varied from one and a-half to three points, according to the direction of the ship's head. Before leaving, the master furnished himself with sufficient earth to form a circuit about an ordinary ship's compass. To accomplish this, half a cask was provided, divested of iron hoops ; and the compass was buried deep in the soil, so that the direction of the needle might be accurately observed. During the voyage the most careful attention has been paid to the compass, and the result has proved the complete efficacy of the plan adopted, and that a compass so fitted is quite as much to be depended on in an iron vessel as though it were in a wooden ship. The experiment was deemed of sufficient importance to attract the attention of Captain Blanche, the adjuster of compasses, who devoted some part of Monday to making experiments, which almost verified the captain's statements. While alongside the wharf the standard compass was one and a-half points wrong, and the



binnacle compass two points out; that on the earth box was true as the needle to the pole.”—(From the *South Australian Advertiser* of Aug. 21, 1876 or 1877.)

H. S.

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*To the Editor of the “British Merchant Service Journal.”*

SIR,—As every fog now-a-days costs some 3 to 6 total losses from foundering and other accidents such as collisions, is it not time to overhaul the latter part of Rule 16, which allows of *no heaving-to*, but says she *shall go* at a moderate speed which for an 18-knot boat might be 12, and for a 12-knot boat 10, and for a 10-knot boat about 8.

That there is great danger in those rates was shown lately, a vessel with a Cinque port pilot in charge, was held blameless, but the writer was once kept hove-to by a Belgian pilot near twenty-four hours in the same position about Dungeness. If steamers and sailing ships were allowed to heave-to in a fog it would be safer, but now as every one is compelled to go, the danger of being run over is too great, and captains assert that it is safer to run over another ship than to be cut into while lying-to, as if stopped you are bound to lie athwart. See s.s. *John Baylis* case. It would add greatly to the safety of navigation if steamers and sailing ships were limited in a fog to 5 knots and 4 knots respectively, and the old unwritten but well-understood law of a bell ringing on starboard-tack and horn on port-tack, as of old, were re-established. This last rule was altered to a fog-horn on all tacks. This alteration was never asked for, and no sailor could understand why it was altered; eighteen years ago, and for some few years after the pamphlet came out, the old rule was stuck to with advantage.

The law of making steamers keep out of the way of *all* sailing ships, was made when all steamers were propelled by paddle-engines, one horse-power to every three tons register,

but the present low-powered screw steamers have little power of stopping. A large steamer which, in an experiment on the river Hoogly, stopped, with two-bladed screw in a line with the stern-post, is reported to have run five miles before she came to a stand.

Again, the starboard-tack rule has sunk many vessels. I think it most probable the *Atalanta*, and probably the ship *Bay of Biscay*, and some others lost in the early part of the year, perished in this way. Last spring must have reminded many of the old East India Free Traders of the long spells of north-east winds inside the Azores, when the ship's cow had to be killed for fresh meat for the passengers, invalids, and children, returning from India.

The ships *Woodbridge* and *Candahar* collided off the Lizard, both trying to weather each other. The ships *Forest* and *Avalanche* off Portland, both lost with many lives.

The officer of the watch in the Franco Atlantique s.s. *Ville de Havre* could not guess that the *Loch Earn*, when he made her red light 4 to 6 points on his starboard bow, was an iron clipper going 9 knots on a bow-line; he probably thought she was a timber-man of the *Windmill Line*, dodging along at about 4 or 5 knots.

The officer of the *Loch Earn* stuck to his rights as being on a wind. Had he luffed and deadened her way no collision would have ensued, instead of which, by porting his helm, he must have increased his speed considerably and thus sunk his man. Is it too much to ask that a mizen-topsail should be backed to allow even a steamer to pass a-head? I have seen it done formerly, but now the steamer is always held to blame.

The *Moel Elian*, sailing barque, sunk the German mail by bearing up and increasing her way instead of luffing and deadening it.

Long ships with three and four masts will not *pay off* in time to avoid collision, even with manœuvring with the after-

yards ; so my advice is, don't trust so much life and property to such hazards.

A steamer is ordered to go a-stern in certain cases, but a-stern board, under canvas, or even stopping, is never even thought of. A sailing vessel with a side wind or on a wind can be got to go a-stern.

Sailors will have to keep themselves as ready for a call as the shipmaster, who should be on deck in a few *seconds*, and tars must not wait for lights to be struck to dress by.

One of the Greek seamen, hung for the murder of the captain and officers of the *Lennie*, excused himself by saying he was called to put the ship about at three a.m. in the English Channel. This was given as an instance of the captain's overbearing cruelty.

An American captain working up the east coast of China offered to bet the writer that he would have his hands on deck, the ship round, and the watch on deck coiling down again before the English ship could get the men at their stations. The result of such discipline was that his ship was insured, free of the ports, for three and a-half per cent., while the Englishman was charged seven per cent. with several restrictions. All-hands jobs are left too much to the time for relieving of the watches for safety now-a-days.

The *Brenhilda's* sinking the British India Company's s.s. *Ava* in the head of the Bay of Bengal was a most cruel affair. The sailing ship was hove athwart getting a cast of the deep-sea lead. She sees a steamer's lights to leeward of her, porting to go a-stern of her ; she starboards her helm, fills, and gathers sufficient way to sink the *Ava*.

A steamer is running up channel with a fresh W.N.W. breeze ; two coasters on her starboard bow, going same way, and being fast overtaken by steamer, the nearest vessel suddenly starboards and gets cut down and sunk, the Irish captain saying he is a sailing vessel and the steamer ought to have kept clear. She was uninsured, and about five



times the value is asked for her than was paid, and all insurance premiums saved. A similar trick was tried at night a few months after, but did not succeed, the steamer having a widened rudder answered it quickly, coming eight points round to get clear. Contributory negligence is never admitted in such cases.

Again, I protest against sailing vessels by the wind holding on merely because they are on the starboard-tack. After nearly half a century's experience I have had to give way or be sunk lots of times, and perhaps, though legally wrong, it is the safest plan.

Nor in green to green in passing steamers is there that safety the poetical rules tell us.

There have been some expensive trials lately in missing steamers. One left the Channel, and two days afterwards another, homeward bound, left Gibraltar. They must have met about Finisterre, where it is feasible that the steamer coming north starboarded to the other's mast-head light for a shore light, as did, some years since, H.M.S. *Amazon*, off the Start, to the Cork Company's s.s. *Osprey*, where both foundered with some loss of life.

Probably if the Receiver of Wrecks were not so exacting we should have more messages from the sea, some of H.M.S. *Atalanta*, but no English or English-bound ship will pick up either flotsam or jetsam. Probably the law may be a little relaxed in this as it was in the restriction of steamers carrying any passenger whatever. Even a shipwrecked friend of the captain's made us liable to fine and trouble, and this is

FREE TRADE.

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OFFICIAL INQUIRIES WHERE  
Reported since

| Ship.                          | Casualty.  | Loss of Life. | Inquiry.   |
|--------------------------------|--|---------------|--|
| <i>Mahabuleshwur</i> ...       | Lost near Laccadive Islands, 15th June, 1880.                                | ...           | Bombay :<br>August, 1880.  |
| <i>Silurian</i> , s.s. ...     | Stranded on Chapman Rock, 1½ miles from Hartland Point, 2nd September, 1880. | ...           | Cardiff :<br>R. O. Jones,<br>18th Sept., 1880.                     |
| <i>Broomhaugh</i> , s.s. ...   | Stranded near Ushant, 1st September, 1880.                                   | ...           | Newcastle :<br>H. C. Rothery,<br>Wreck Commr.<br>21st Sept., 1880. |
| <i>Nola</i> ... ..             | Stranded in Coprapo Bay, Chili, 26th June, 1880.                             | ...           | Valparaiso :<br>H.B.M. Consul,<br>22nd July, 1880.                 |
| <i>Xanthus</i> , s.s. ...      | Lost on the Coast of Greenland.  | ...           | Aberdeen :<br>J.P.,<br>25th Sept., 1880.                           |
| <i>F. W. Harris</i> , s.s. ... | Lost at Chance Head, Newfoundland, 1st July, 1880.                           | ...           | Newfoundland :<br>D. W. Prouse, Q.C.,<br>19th July, 1880.          |

### APPRENTICES TO THE SEA SERVICE.

MERCHANT SEAMEN, PAYMENT OF WAGES, &c., ACT, 1880.

**A**S some misapprehension appears to have arisen with reference to the changes made by the Merchant Seamen's Act, 1880, in the law regulating the position of apprentices to the sea service who may neglect or refuse their duty to their employers, the Board of Trade think it well to give a short explanation in the matter. 1. In the first place it is an error to suppose that the jurisdiction in such disputes is

# CERTIFICATES HAVE BEEN DEALT WITH.

1st September, 1880.

| Nautical Assessors.            | Finding of Court.  | Decision.  |
|--------------------------------|--|--|
|                                | Navigation of ship performed in a careless and indifferent manner.           | Master's certificate suspended for 9 months. Lower grade granted.              |
| Clark, R. F.<br>Cuming.        | Want of proper care.   | Master's certificate suspended for 3 months.                                   |
| Foster.<br>Castle.             | Master to blame for going below when the vessel was in a position of danger. | Certificate suspended for 6 months. Lower grade granted.                       |
| Elliot.<br>Marshall.           | Great want of precaution.  | Master's certificate suspended for 6 months.                                   |
| Ward, C. Y.<br>Ward, G. W.     | Master and Mate guilty of gross misconduct.                                  | Certificate of the Master cancelled, that of the Mate suspended for 12 months. |
| Robinson.<br>Green.<br>Searle. | Want of caution.   | Certificate of the Master suspended for 4 months.                              |

remitted to the county courts. A reference to the Employers and Workmen's Act of 1875 (which by the present Act is made to apply to seamen and apprentices to the sea service) will show that it remains, as before, with any court of summary jurisdiction, that is, with the magistrates. 2. It is true that the imprisonment of apprentices for "desertion" or "neglecting to join" is now forbidden, but, under the 6th section of the Employers and Workmen's Act, where an order is made directing an apprentice to perform his duties under the apprenticeship, the Court may, if satisfied



that the apprentice has failed to comply therewith, order him to be imprisoned for a period not exceeding 14 days. It must further be noted that sub-sections 4 and 5 of section 243 of Merchant Shipping Act, 1854, remain unaffected, and by these two sub-sections apprentices are still liable to imprisonment for "wilful disobedience to any lawful command" or for "continued wilful neglect of duty." 3. Although an apprentice, by giving 48 hours' notice under section 10 of the Merchant Seamen's Act, 1880, can protect himself from liability to be summarily sent on board by order of a magistrate, it may be contended that the very fact of his giving such notice constitutes *prima facie* a violation of the indenture of apprenticeship, and exposes him to be at once taken before a magistrate in order that his case may be dealt with according to circumstances, either under section 243 of the Merchant Shipping Act, 1854, or under the provisions of the Employers and Workmen's Act, 1875.—EVELYN ASHLEY—THOMAS GRAY, Assistant-Secretary, Marine Department, Board of Trade, 3rd September, 1880.

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## THE BRITISH SHIPMASTERS' AND OFFICERS' PROTECTION SOCIETY OF SUNDERLAND.

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IN presenting their Seventh Annual Report, your Committee are able again to congratulate the members on the increasing prosperity and efficiency of the Association. The balance-sheet annexed to the Report, contains a full statement of the financial position of the Society, which is in every respect satisfactory.

During the year which has elapsed since the last Report was presented, important legislation has again taken place with reference to the Mercantile Marine. A Parliamentary Commission, appointed to enquire into the method of loading

grain cargoes (before whom your Secretary was examined), held an exhaustive inquiry, and the result of their Report is found embodied in the Act of Parliament recently passed on the subject, called "An Act to provide for the safe carriage of Grain Cargoes, 1880." As this Act throws considerable responsibility on masters, your Committee beg to call the attention of the members especially to it. The Committee hope that the Act will be found beneficial to the shipping interest.

The new Rules for conducting Inquiries have also come into operation, and on the whole your Committee believe that these Courts of Inquiry as now constituted and conducted, are better adapted for the purpose than before, although there is, in the opinion of your Committee, still greater room for improvement. The right of appeal, as was pointed out by your solicitors at the last Annual Meeting, is in many cases practically valueless, as owing to the vacations during which the Court of Appeal (in England the Admiralty Division of the High Court of Justice) does not sit, and to the large number of Admiralty and other cases awaiting adjudication, many of these appeals cannot be heard before the period of suspension is ended, and when of course no practical advantage could be obtained. Your Committee trust, however, that some more speedy method of hearing and deciding appeals may be devised and adopted. Since October, 1879, thirty-one Inquiries have been held (in which the conduct of members of this Association was involved) and in twenty-one cases the members were held free from blame, and in the remaining cases periods of suspension averaging about five months each were ordered, but in no case was any member's certificate cancelled.

Although your Committee and the members generally cannot fail to be gratified with the success of the Society, yet your Committee feel that looking at the large number of certificated masters and officers engaged in the Mercantile

Marine of this country, the number of members might with great advantage to the Society, be yet largely increased. This is a matter the Committee would urge upon the attention of each individual member, with a view to his bringing before his friends who are not members the advantages of the Society.

The Association for the Mutual Insurance of Effects is also making progress at a satisfactory rate. On the 7th September last, the number of insurers was 437. Your Committee would also press this Association upon the notice of the members.

On the 1st January next, it is intended to definitely commence the Life Assurance Society (in accordance with the Provisions of the Friendly Societies Acts), to which the attention of members has been several times called lately. All members wishing to join this Society, are requested to forward the entrance fee (7s. 6d.) to the Secretary, on or before that date, and also to join in earnestly solicitating others to enter the Society, the benefits derived from it being so obvious.

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## THE AMALGAMATED BRITISH SEAMEN'S SOCIETY.

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**I**N our June number we published a letter from the above-named Society, in which the Secretary, Mr. Lind, expressed surprise that the action of his Association should have been condemned at a meeting of seamen and stokers, held in Liverpool in May last, for he could scarcely believe it was owing to his Society being opposed to strikes, and to its having taken every means and precautions to avoid them. Whatever the cause of the opposition might be, the Society was determined to act in a manner which would gain the support and respect of those interested in the welfare of the British seaman.



A somewhat lengthy communication has reached us from a Mr. James Fitzpatrick, alluding to the above-mentioned letter, and stating the grounds upon which the Society was condemned by the speakers in Liverpool. The action condemned was that of Mr. Lemon, the President of the Society, in giving evidence before the Parliamentary Committee upon the Extension of the Employers and Workmen's Act to Seamen, and for the support accorded by the Society to Captain Bedford Pim, R.N., M.P., upon the introduction of a Bill entitled the "Mercantile Marine Hospital Act."

The foregoing comprise the pith of the letter, and having been requested "on the principle of fair play for the information of our readers to publish the answer to Mr. Lind's question" we give space to the same.

Having always taken a lively interest in the proceedings of the Seamen's Society, we have carefully followed up the correspondence which has been carried on between Mr. Lind and Mr. Fitzpatrick in the *Liverpool Mercury*, and having also read the evidence given by Mr. Lemon before the Select Committee of the House of Commons on the Merchant Seamen's Bill, 1878, we can only express great surprise that the views recorded on behalf of a regularly-organised Society (and, we may say, a well-governed Society, numbering close on 4,000 members), *vide* Answers 5712-13-14, should have formed the subject for such severe language as has appeared. Doubtless the correspondence published in the *Daily Chronicle* of the 22nd September, 1879, showing that the Sailors' Society declined the invitation to attend the Trades' Union Congress at Edinburgh, would have vexed those who endeavoured to prove that there is an analogy between the requirements of sailors and landsmen, and this we are inclined to think was the cause of the antagonistic feeling shown in Liverpool, for there is nothing in the constitution of the Society, as set forth in its rules, to which objection can be taken.

As already mentioned, we take a warm interest in the Seamen's Society, and, desiring to promote the welfare of the Merchant Service, it affords us much pleasure to copy the following letter from the columns of the *Shipping Gazette*, which must recommend itself to every impartial reader :—

“ V.G. CERTIFICATES OF ABLE SEAMEN.

“ Sir,—Among the correspondence in your number for the 30th September, ‘ A Shipmaster ’ complains of the difficulties under the new Act of securing a ship's crew to their duties at the appointed time, of inefficient men possessing V.G. certificates of discharge, &c., upon which I will claim your indulgence to make a few remarks. The Society which I represent has incurred the serious displeasure of the Trades' Unions of the country because we were honest enough to agitate against the application of the Employers and Workmen's Act, &c., to seamen, as being inopportune, owing to the present demoralised state of the labour market. We foresaw that the immediate consequences would be that, rather than lose tide upon tide, waiting for the crews originally shipped, vessels would go to sea shorthanded, or with stragglers picked up at the pier-heads, unable to do the very rudiments of a sailor's duties ; and such is the case already. But the Act has passed and is in force, and as it is hardly feasible that it will be repealed, we must make the best of it. The abolition of conditional advance notes will, no doubt, tend to lessen the evil, but will not cure it. Now, Sir, I think the remedy is very easy if the Government will take the matter in hand. It was, no doubt, with the best of intentions that the Government passed the Shipping Act of 1880, and it is therefore reasonable to expect that they should do their part to remedy its defects, and cause it to work satisfactorily to all parties interested. ‘ A Shipmaster,’ in complaining of men who can neither steer or keep a look-out, possessing V.G. discharges, has touched upon the remedy

itself, but I must disagree with him when he blames the shipping masters for granting such men V.G. discharges.

“The blame must lay with the shipmasters with whom they have sailed for not declining to recommend their abilities, which they have the power to do. The shipping masters duty is merely to attest the master's signature. Discharges have been proved over and over again to be no criterion of a man's abilities; false V.G. discharges are being used daily, and can be purchased for a ‘pot of beer;’ then, why retain them? Why not once and for all substitute a certificate that cannot be bought or sold? Why should seamen not pass an examination in seamanship before being entitled to the rating of an A.B. My remedy is: That the Board of Trade should take up the voluntary examination scheme for A.B.'s, started by the London Local Marine Board in December, 1877, and make it compulsory. The voluntary scheme has proved a failure owing to the very fact of its being voluntary, as the examinations have only resulted in an average of seven certificates per year, or a total of twenty-one since its commencement.

“To prevent a dearth of men through a compulsory Act, we suggest ‘that all men now serving as A.B.'s should be granted certificates of servitude upon production of *bonâ fide* proofs of sea service as A.B.'s in the British Merchant Service for not less than four years, as provided under the Act of 1880. Those who could not prove their services should not be shipped until they had passed an examination. The certificate would be on parchment, and would contain on the back of it the correct description of the man to whom it was issued, to prevent fraud, and should be given up to the master of the vessel on signing articles, which would be a guarantee of his going in the ship, failing which he would be unable to join another.’

“With such a plan made compulsory, ships would secure efficient men, and the shipping offices would again become



of some use. I would also remark that vessels employing men a day or two before sailing are seldom put to any trouble at the last hour.

“Yours, &c.,

“WILLIAM PATERSON LIND,

“General Secretary to the Amalgamated British  
“Seamen’s Protection Society.”

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## THE MERCANTILE MARINE.

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THE transformation and development which the Mercantile Marine of the world is undergoing are too remarkable to escape attention. The system of building ships of wood, which is almost as old as the world itself, and which remained unrivalled down to our own day, appears likely soon to disappear altogether, or to retain a purely exceptional and local existence in out-of-the-way places. Those who intimately knew the inherent difficulties and risks of wood shipbuilding—the natural limitations of size, form, and sources of supply of trees available for shipbuilding uses; the absolute necessity of metallic fastenings for the larger vessels; the difficulty, not to say the impracticability, of producing, even with metallic fastenings, a hull which would refuse to change its form under the action of sea-waves; the insidious nature both of wet rot and dry rot under the influences of varying climates and sea waters; and, above all, the insuperable limits of size which could not be with safety exceeded while ships were built of wood—we say, those who well understood these things, and who witnessed the introduction of iron, with its immense capabilities, into the shipbuilding trade, never doubted that sooner or later the iron ship would drive the wood ship from the seas. Or if this be too much to assert as regards the first few years of

iron shipbuilding, it can certainly be said with perfect confidence that all doubts must have vanished when, in 1859, the great Brunel put his Titanic ship afloat. Such a structure as the *Great Eastern* was impossible in the wood age; of the iron age it was a triumph which has not been surpassed, and which, in many respects besides size, is only now becoming emulated. But its construction established the future of naval architecture.

Very naturally, but, nevertheless, very vainly, the Americans, the Canadians, the Italians, and many others, who could build ships of wood but could not produce them of iron, or could not produce them advantageously in open competition with ourselves, have clung with strenuous tenacity to the use of timber ships. The Americans have even made repeated efforts to prove the inferiority of iron for the purpose. One ingenious shipbuilding authority as recently as 1875, in a large and imposing technical work, undertook to demonstrate that the "flotation furnished by lightness of material" in the wooden ship was more valuable for cargo-carrying than that "furnished by cavity" in the iron ship; that the elasticity of "the textural fibres of the wood" give that material advantages in shipbuilding over all inelastic materials such as he deemed iron to be; and that, in short, wood was the best and most trustworthy, and iron the worst and least trustworthy, of shipbuilding materials.

"'Tis fearful," exclaims another American gentleman whom he quotes with admiration, "to see how these iron vessels are being put together, and more fearful to witness the blind trust in them by the world." And again, "the whole thing is too full of risk for sensible or thoughtful men to countenance any longer. The world has been imposed on long enough, and it is time that good and thoughtful people shall be found who will sustain and support the few morally strong ones who will not bow the knee to Baal, but who still persist in crying aloud to our people and the nations, 'Beware

of clasping a sheet of iron to float upon or to save you from drowning.' ” The opposition to iron has, however, been all in vain, and it is now manifest that year by year the competition of wood-built ships is getting more and more hopeless. No notice is taken of this decline of wood shipbuilding in the very valuable report of Mr. Giffen which is prefixed to the last “ Annual Statement of the Navigation and Shipping of the United Kingdom,” but the fact is really and strongly reflected in another which is there fully developed—viz., the diminution of sailing ships and the increase of steamships. For steamships iron is now all but universally employed ; the ships built of wood are sailing ships ; the disuse of wood and the extended use of iron (and of steel) are, therefore, practically demonstrated in the increasing substitution of steam for sailing vessels. This substitution is, indeed, remarkable. We shall not attempt to give the figures for the Mercantile Navies of other countries. It is obvious that if, in our own enormous trade, the iron steamship is rapidly extinguishing the competition of our own wood sailing ships, the competition of foreign sailing ships of wood cannot be of long duration. Confining ourselves, therefore, to our own trade, we will endeavour to reflect the process of transformation in a few striking figures. We will employ for the purpose those representing the tonnage of vessels added to and deducted from the registers of the ports of the United Kingdom (excluding vessels merely transferred from one port to another), during the last five years respectively :—

|      |     | Added            |     |                |     | Deducted         |     |                |  |
|------|-----|------------------|-----|----------------|-----|------------------|-----|----------------|--|
|      |     | Sailing<br>Tons. |     | Steam<br>Tons. |     | Sailing<br>Tons. |     | Steam<br>Tons. |  |
| 1875 | ... | 337,309          | ... | 165,276        | ... | 236,760          | ... | 90,438         |  |
| 1876 | ... | 289,269          | ... | 138,713        | ... | 238,343          | ... | 79,372         |  |
| 1877 | ... | 269,961          | ... | 223,971        | ... | 265,392          | ... | 90,148         |  |
| 1878 | ... | 189,477          | ... | 275,034        | ... | 210,687          | ... | 98,063         |  |
| 1879 | ... | 99,929           | ... | 310,875        | ... | 265,431          | ... | 116,105        |  |



The first column shows a continual and very large decline in the tonnage of sailing ships added yearly to the registers, in contrast with an almost continual and very considerable increase in the tonnage of steamships added yearly, as exhibited in the second column. Comparing 1875 with last year, we observe that while the addition of sailing tonnage has fallen nearly to one-fourth, the addition of steam tonnage has nearly doubled. The third column shows that while the tonnage of sailing ships added to our marine is so largely diminishing, the tonnage of such ships removed from the register does not diminish; last year the quantity of sailing ships added being sufficient to replace only about one-third of that removed from the register. As regards steamers, on the other hand, the very reverse is the case, there having been added last year nearly three times the tonnage removed. Another mode of stating the facts of last year is, that while the sailing tonnage was diminished by 165,602 tons, the steam tonnage was increased by 194,770 tons. The facts are not less striking, of course, when we note the shipbuilding of the year instead of the changes in the registers. "The building of steamers last year compared with sailing vessels was," says Mr. Giffen, "as 5 to 1—297,720 tons of steam vessels to 59,153 tons of sailing vessels." And he adds words which call attention to the fact that steamers perform very much more work than sailing vessels—a circumstance which, as he justly remarks, "makes the disproportion enormous." It is certain, therefore, that the substitution of steam for sail propulsion, and the correlative substitution of iron for wood, are proceeding at an astonishing rate, and are rapidly bringing the whole commerce of the world under new conditions.

Simultaneously with this general transformation of the Mercantile Marine into iron steamers is going forward a vast improvement in the size, speed, safety, and efficiency of the steam ships employed upon the great ocean routes. Twenty

years ago the largest steamers known (in this, as in all such comparisons, neglecting the *Great Eastern*, which was a prodigy of engineering skill) did not reach 350 ft. in length, 45 ft. in breadth, 3,500 tons in tonnage, or 4,000-horse power indicated. We have before us at this moment a list of 50 merchant steamers sailing, in the year 1860, from Southampton and other southern ports, which the largest vessels then frequented, and the list includes but ten ships of more than 300 ft. in length, none of which reached the limits of size and power just given, and the whole of which belonged to two companies—viz., the Royal Mail and the Peninsular and Oriental. At the present moment we have afloat and at work the White Star Liners, some of them of 445 ft. in length, 45 ft. in breadth, and nearly 5,000 indicated horse power; the Inman Liners, comprising such ships as the *City of Berlin*, 488 ft. by 44½ ft. broad, and of about the same steam power; the *Orient*, of 445 ft. by 46¼ ft., with engines developing 5,600-horse power; the *Arizona*, of about the same size, with still greater steam power and speed; and many other splendid vessels but little inferior to any of the foregoing. And these grand steamers—many of which reach the quays of New York with greater punctuality than railway trains reach the London suburbs from Victoria and Charing Cross, and would reach our quays with equal punctuality if they could avoid the abominable sands that bar the Mersey—are the forerunners of still larger and more powerful vessels now taking shape upon the banks of the Clyde and elsewhere. The Cunard steel ship, the *Servia*, now building by Messrs. Thompson, of Glasgow, is 500 ft. by 50 ft. with over 10,000 indicated horse power, and will, therefore, doubtless possess a speed considerably in advance of that of the very fastest ship at present afloat in the Mercantile Marine. The Inman steamship *City of Rome*, building of iron, at Barrow, will be still larger, having a length of 546 ft., a breadth of 52 ft., a gross registered tonnage of 8,000, and a

steam power nearly equal to that of the *Servia*. The Guion Line is to be increased by ships of almost equal size and power, and the Allan Line is building others equal to the finest of the White Star boats. Nor is there any reason to suppose that the demands which have led to the building of these fine ships will be satisfied by their construction, or will themselves cease to increase. Notwithstanding the number and magnitude of the passenger steamers now running between America and this country, the traffic is so great that it has only been possible to secure accommodation by arranging passages many weeks, and even months in advance, while the rapidly-increasing population and wealth of the United States and of Canada make it certain that the interchange of agricultural produce and manufactured goods between them and ourselves will go on increasing. But the improvement in the size and power of the ships of our steam merchant marine is not by any means limited to our traffic with the Continent of North America; on the contrary, an almost equally remarkable improvement is proceeding on many different routes. Taking the mail service to the Cape of Good Hope, for example, we find that this service was performed 20 years ago by the following steamers of the Union Company:—

|               |     | Length  |     | Breadth |     | Tonnage  |     | Nominal h.p. |
|---------------|-----|---------|-----|---------|-----|----------|-----|--------------|
| <i>Athens</i> | ... | 224 ft. | ... | 30 ft.  | ... | 739 tons | ... | 130          |
| <i>Celt</i>   | ... | 179 ft. | ... | 25 ft.  | ... | 550 „    | ... | 85           |
| <i>Dane</i>   | ... | 177 ft. | ... | 24½ ft. | ... | 530 „    | ... | 60           |
| <i>Norman</i> | ... | 171 ft. | ... | 24¾ ft. | ... | 530 „    | ... | 60           |

This company is now laying down several steamers 365 ft. long and 43 ft. broad, with proportionate steam power, and, therefore, larger and faster vessels than any that existed twenty years ago; while Mr. Donald Currie is continually adding fine and powerful steamers to his large and successful line for employment upon the same service to the Cape. The



British India Company are building vessels nearly 400 ft. long; still larger steamers are being constructed expressly for the cattle trade; the Peninsular and Oriental Company are constructing more than half-a-dozen ships of about 400 ft. and upwards in length; and an Ocean Express Company is being formed to construct several steel ships of a large class, with very great steam power and speed, to run from Milford Haven in competition with the Liverpool ships.

It is highly gratifying to us to be able to state that the quality and general character of our large steamships are improving equally with their size and speed. Whatever may be the cause assigned, it is an undoubted fact that our largest ships are being brought more and more under scientific supervision both in design and construction, by far the larger part of them being classed by Lloyd's Register office under special survey. There was a time when Lloyd's Register was a very conservative affair, difficult to move, slow to originate anything, and standing firmly by the old policy of changeless rule and formula, which was perfectly proper and highly respectable in the days of world-old wooden ships. But when iron ships became numerous, and gradual improvement in their construction indispensable; when their lengths rapidly rose from four and five times, to six, eight, ten, and even eleven times their breadth; when, at the Institution of Naval Architects, Lloyd's surveyors came year after year face to face with the leading naval architects and shipbuilders of the time, it became obvious that Lloyd's must move with the times. It accepted the position, replaced its senior surveyors by younger men, drew some of the best-trained and clever members of the Admiralty staff into its service, and set the designers and builders of ships perfectly free to propose any improvements they pleased, Lloyd's accepting under special survey all such as commended themselves to their judgment, although lying beyond the fixed rules of their "Book." By these means, Lloyd's Register office has

secured the confidence of all parties; the largest and wealthiest owners seek their inspection and classification; many and great improvements are brought into the construction of our ships, and so high is the standing acquired by this Register that one of its principal officers is now engaged upon the *Atalanta* Committee, and another has been intrusted by that Committee with the conduct of calculations that appear to be of the utmost possible importance to the elucidation of the facts of the case. The importance of a body of this nature acquiring and exerting influence will be very obvious to those who know how little control the State exercises over some of those features in a ship which most involve the safety of life and property.

One very important matter in respect of which great improvement has taken and is taking place is that of the subdivision of iron ships into water-tight compartments. Even when water-tight bulkheads are fitted in sufficient number throughout a ship the dangers of the case are sufficiently great, and the instance of the war ship *Vanguard* shows that it is not sufficient to fit a ship with such bulkheads, for the leaving open of the water-tight doors, or the neglect to close them after an accident, will as effectually destroy the ship as would the absence of such divisions. But, unless such water-tight bulkheads are fitted in sufficient number to prevent a single accident from sinking the ship, the peril of the passengers is great indeed, and this peril ocean passengers have for many long years been undergoing to an extent that the public would be unwilling to believe. A very few years ago the Admiralty, as is well known, conducted an inquiry into the condition of our merchant steam navy in this respect, and the result was of such a nature that it has never been published. Many and many a fine steamer carrying passengers across the ocean was so insufficiently supplied with these divisional bulkheads as to be sure to founder from any serious collision or other accident of the

kind, however well the few that existed may have been built ; others had these transverse bulkheads in sufficient number, but with some of them carried up to an insufficient height, so that the sea, on filling one compartment, would flow over the tops of the divisional bulkheads into the other compartments, and thus sink the ship, although less swiftly, with equal certainty. During the last four or five years a very great improvement has taken place in this most important respect, the case of the *Arizona* steaming at full speed into a mountain of ice, surviving the shock, and steaming to port without assistance, affording a noteworthy example of the successful use of water-tight bulkheads. It is but fair to say that Messrs. Harland and Wolff, of Belfast, in building some of the largest of the White Star steamships, gave careful attention to this vital matter when too many builders and owners of great and pretentious steamships were sadly neglecting it. There are no means that we know of by which the public can enforce any stipulation, or even ascertain with certainty the condition of any particular ship, to such lengths does the Legislature go in leaving shipowners and shipbuilders to do as they please. There are hundreds of iron steamships now afloat, doubtless, in which this primary element of safety is disregarded, but it is gratifying to know that in our largest and fastest Transatlantic ships of the newest type the question is receiving more consideration than ever. In this, as in so many other respects, the control of Lloyd's Register may be extended with very great advantage to the public.

Another respect in which safety at sea is being promoted in our largest and finest passenger steamships is that of structural strength. There is no room for doubt in the minds of those who have studied the subject with care that iron ships of great structural weakness have been sent to sea in large numbers, and many of them have been lost from this cause. Every port in the kingdom in which iron ships are repaired



has supplied abundant evidence of this weakness, and in the early days of iron shipbuilding the means of strengthening weak ships were, in the main, tentative and experimental. The actual strains which large merchant steamers sustained at sea first underwent careful theoretical investigation in 1874, when Mr. W. John, one of the most scientific members of the shipbuilding profession, read a paper upon the subject at the Institution of Naval Architects, following out a line of investigation which Mr. Read had previously applied to iron ships of war. Mr. John said :—

“ Among the deductions to be drawn from this paper the most important is, I think, that the longitudinal strength of large iron steamers requires the most careful and anxious attention. We are trespassing on the margin of surplus strength to an extent which creates in my mind an uncomfortable feeling, especially in view of the enormous strides which are now being made from 400 ft. to 500 ft. in length.”

Nor is it at all certain that the greatest strains of a ship are brought into view by treating her as a girder when upright ; on the contrary, while the action of gravity is always downward, a ship at sea is laid over by the winds and waves to great angles of inclination, and from this and other causes enormous twisting and bending strains are brought upon the hull in all sorts of oblique directions. This is now being better understood and more effectually provided for than ever, and we have no hesitation in saying that many of the largest and fastest steamships now being built are among the strongest and most seaworthy ever produced. And this we say in full view of the fact that enormous proportionate length is being given to such ships. There are not a few, including sailors of the old school, who denounce very long ships as necessarily unsafe, and regard their construction as wanton invitations to disaster. It is extremely doubtful whether this opinion rests upon anything more than prejudice. As regards mere strength it is not to be doubted that, with

iron or steel as the material of construction, the superiority of a long ship's strength to the straining forces may be made as great as is desirable. With regard to rolling, it has now been established that the conditions regulating this motion are in no way incompatible with great length, and it is probably true that some of the very long fast Transatlantic steamers are among the steadiest of ships afloat. With regard to pitching, it is certain that under all ordinary conditions the pitching of a very large and long ship is less than that of others, and although in some exceptional seas the long ship will lift up to an oncoming wave less than a shorter vessel, there is nothing of a dangerous character in this circumstance that is not more than met by the long forecastle and poop which are now coming into vogue. With regard to steering, their handiness is apparently all that can be desired when the rudder is, as it now usually is, controlled by steam. At the same time, we are free to acknowledge that it appears by no means certain that an excessive proportion of length to breadth is attended by any great advantage, except as regards the accommodation of passengers, and even that is not without some attendant disadvantages.

It must not be inferred from what has gone before that our view of the Mercantile Marine is altogether one of approval. On the contrary, we may feel it our duty on an early occasion to invite attention to many and serious evils connected with it. The object of our present remarks is primarily to exhibit the progress which our Mercantile Steam Marine is making by the substitution of iron or steel steamers for wood sailing vessels, and by the development of large and fast steamships of a high character for employment upon the great ocean routes. We have already seen that, as regards the latter point, the tendency to increase of size is visible in various lines of trade, and this fact comes out in a very striking manner in the aggregate, showing itself, of course, in a vast increase in the tonnage of our shipping in

proportion to the number of our ships. For example, while in the year 1879 the vessels entered at the various ports were only 495 in number in excess of those entered in 1878, the tonnage was in excess by 1,973,025 tons; and while the clearances from our ports were 131 vessels less than in 1878, the tonnage cleared was greater by more than a million tons. From these and similar figures Mr. Giffen correctly infers that there is evidently an increase in 1879 of the average tonnage of ships in the trade of the country; "and there are other facts showing a tendency at the present time for the average size of ships to increase, which has some connexion, in fact, with the increasing preponderance of steamships in the trade of the world," to which we have already adverted.

It will already have suggested itself to the reader that both events tend to the concentration alike of the shipbuilding and the ocean-carrying trade of the world in the hands of this country for some time to come. It is impossible for other countries to compete with us in the production of iron and steel steamships at present, and the larger these ships become, and the greater the size and power of their steam machinery, the more difficult will it be for other countries to compete with us. It is doubtless to this manifest tendency of maritime affairs to enrich and aggrandize Great Britain that are due the protectionist doctrines and practices of the American peoples, and the extraordinary scheme that has passed the lower branch of French Legislature for giving an enormous bounty to all foreign-going French vessels, and a still larger one to all steamers built in France according to plans approved by the Minister of Marine. It is no part of our present intention to discuss either question here, but we may fairly express the hope that the one system may prove as ineffectual as the other in depriving our shipowners and shipbuilders of that pre-eminence which they have fairly won in open competition with the world at large.—(*Times*.)



## MUTUAL INSURANCE.

NUMEROUS inquiries having lately reached us in reference to the insurance of masters' and officers' effects, we now publish the rules for the proposed undertaking which will be started so soon as twenty gentlemen notify their desire to avail themselves of the scheme:—

“The Committee of Management of the Shipmasters' Society are prepared to conduct a scheme for the Mutual Insurance of Members' Effects upon the following conditions, it being always understood that the said Committee do not participate in the profits or losses, nor contribute to the expenses in connection with the scheme.

“The mode of conducting the insurance will be strictly upon mutual principles. The insurers to divide proportionally profits or losses according to the amount of their respective policies.

“The only deductions for the present to which the funds will be liable will be thirty-six guineas, as fees to be paid to any three members of the Committee who may be nominated to act as managers, 5 per cent. per premium to the Secretary, and the cost of stationery, printing, and postages.

“The maximum amount to be covered shall be £100, and the rate for insuring £5 5s. per cent. per annum.

“The effects to be covered in either steam or sailing ships approved by the Committee.

“The Insurance to cease when effects taken out of ship, but to be transferred, if required, to any other approved vessel.

“Every Insurance is warranted free from average, unless the vessel be stranded, sunk, or burnt. (A grounding in the Suez Canal, the river Danube, or Yenekale Bar, not to be considered a stranding.)

“ Cases of partial loss or damage to be dealt with at the direction of the Committee.

“ No act of either the insured or the insurers, having in view the preservation or recovery of the property insured, shall be deemed a waiver or acceptance of abandonment.

“ All claims shall be stated according to the usage at Lloyd's (except as otherwise directed by these rules and by the practice of this Association), and delivered with all necessary documents at the office of the Society at least seven days before the periodical meetings of the Committee, when the claim is to be considered.

“ Early notice shall be given of any claim, and all claims to be forfeited if not made within six months from the date of the expiration of the policy, unless the Committee are satisfied that the delay has been beyond the control of the insured.

“ The Committee shall have power to compound with members who have ceased to insure and may desire to withdraw.

“ If any steamship in European waters, or in the North Atlantic Ocean, has not been heard of for two calendar months, or elsewhere for four months; or any sailing ship in European waters for three months, in the North Atlantic for four months; or elsewhere for six months, she shall be deemed to have been lost on the day she was last heard of, and paid for accordingly, on satisfactory security being given for the repayment of the amount in case the effects, &c., or any of them, be not so lost.

“ Effects off risk for not less than 30 consecutive days shall be entitled to return of      per cent. per month between October and March inclusive, or      per cent. per month between April and September inclusive. Notice to be given in writing of the commencement and termination of the period of risk.

“ All monies received shall be paid in to the account of

the Association, and all payments shall be made by cheque on the Bankers of the Association.

“ In order to form a Reserve Fund the profits shall not be divided for the first three years, but after that time the accruing profits shall be divided annually between the insurers in proportion to the amount of their respective policies and length of time they have insured.

“ BENEDICT F. CRAMER, *Secretary*.

“ Shipmasters' Society, Jeffrey's Square,

“ St. Mary Axe, London, E.C.”

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## THE HUSTON SELF-LEVELLING BERTH.

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NEARLY eighteen months ago we gave a short description of the above-mentioned invention which had been brought to our notice, the peculiarity of which lay in the application of the universal joint both above and below the berth, thus obtaining a perfectly level surface and a freedom from sudden jerks.

Having been, we believe, the first to notice the invention, we are the more pleased to find that the reports upon the merits of this patent are most satisfactory. We understand the Admiralty are considering the introduction of these berths into the floating hospitals, it having been represented that the patients will by this means obtain the repose so necessary in many cases.

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## NEW REGULATIONS FOR PREVENTING COLLISIONS AT SEA.

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WE consider it right to draw the attention of shipowners and masters to the following Regulation for the Prevention of Collisions at Sea :—

“ Article 5. A ship, whether a steamship or a sailing ship, when employed either in laying or in picking up a telegraph cable, or which from any accident is not under command, shall at night carry, in the same position as the white light which steamships are required to carry, and, if a steamship, in place of that light, three red lights in globular lanterns, each not less than 10 inches in diameter, in a vertical line one over the other, not less than 3 feet apart: and shall by day carry, in a vertical line one over the other, not less than 3 feet apart, in front of, but not lower than, her fore-mast-head, three black balls or shapes, each 2 feet in diameter.

“ These shapes and lights are to be taken by approaching ships as signals that the ship using them is not under command, and cannot therefore get out of the way.

“ The above ships, when not making any way through the water, shall not carry the side-lights, but when making way shall carry them.”

There appearing to be some doubt as to whether all vessels come under the provisions of the above Regulation, we have made enquiry, and are in a position to state that the construction placed upon this Section by the Board of Trade is, that all vessels, whether they be steamers or sailing ships, are required, when broken down or are not under command, to carry, by night, the three red lights, or, by day, the three black balls or shapes in the position above defined. We therefore urge upon our friends the necessity for following out this Regulation, as non-compliance with the same would tell unfavourably in a Court of Law.

THE LOAD-LINE.

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THE Right Honourable Joseph Chamberlain, M.P., President of the Board of Trade, has recently visited the shipbuilding yards at Hartlepool, where Mr. Edward Withy, one of the largest shipbuilders in the place, drew attention to the "well"-decked ships which are largely built in the district, and contrasted them with flush-decked ships, showing the relative merits of the two, and urged on the President of the Board of Trade that in future legislation care should be taken that the peculiarities of both systems should be borne in mind, and that inquiries should be made as to the kind of vessel in cases of loss.

Mr. Chamberlain, in the course of his remarks, referring to the load-line question, expressed the opinion that it was not expedient for the Board of Trade to determine the load-line, and that if it were fixed by the shipbuilders it would lead to diversity and to possible conflicts between different ports. He thought that the shipbuilders might first state the proposed load-line, and if objection were taken to it on the part of the Board of Trade, an independent authority, on which shipbuilders, shipowners, Lloyd's, and the Board of Trade should be represented, might act as a Court of final appeal. By this means he suggested that a load-line fair to the shipowners, and with that safety that public opinion demanded, might be arrived at.

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BRITISH MERCHANT SERVICE  
JOURNAL.

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NOVEMBER, 1880.—VOL. II.—No. XI.

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UNSKILLFUL NAVIGATION.

*(Paper read before the Members of the Shipmasters' Society,  
28th October, 1880.)*

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ON looking over the casualties reported for two years in our Journal, the tale told is not assuring to us as a professional body.

There are 166 cases reported as coming before the different Courts, in which certificates have been dealt with, owing to all causes of accident. An analysis of this table shows 136 cases of stranding, from which must be deducted 10 where the officers were found in fault, and 3 cases of drunkenness, leaving 123 cases, or 74 per cent. of stranding against 26 per cent. for all other causes. Of these 123 cases there are 72 steamers (or 60 per cent.) where the Courts have necessarily found "Unskillful Navigation" to be at fault. We say necessarily, as in no case was extreme stress of weather or ordinary perils of the sea found to have been the cause, showing that more skillful navigation would have prevented the accidents.

Statistical figures may not always tell a true tale, but the column of this table headed "Findings of the Courts" is a sad subject for contemplation.



Amongst some verdicts are the following expressions:— “ Navigating too close to shore,” “ Neglecting to verify the ship’s position,” “ Passing a dangerous rock too close at full speed,” “ Careless navigation,” “ A want of proper and seamanlike skill,” and all the others more or less in the same direction, a want of skill.

Now, on the old principle that “ Time is money,” which is strongly exemplified in the keen competition to make quick passages, men are driven to take every advantage to cut corners and run other severe risks in navigating steamers. So we must look for some more deep-seated defects than carelessness, or the opposite extreme, namely, over-anxiety to be first in the race for smartness in making quick passages on which promotion and even livelihood will depend.

We are sure there are many men who, after meeting with accidents of this kind, are unable to make up their own minds how the ship had been so far out of her supposed reckoning, although they had passed their examinations with ease and credit to themselves and had every confidence in their own powers.

There are many books published on the preparation for the Local Marine Board examinations, which are considered full epitomes of the necessary knowledge to navigate safely, and correctly so, in so far as the requirements to obtain a certificate.

The standard of these examinations has been raised of late years with the object of obtaining more skillful navigators, but this higher tendency has been shown only in a more punctilious exactness in calculations on Nautical Astronomy, or as the “ Sailor’s Pocket Book,” by Capt. Bedford, has it, “ Proper Piloting ” in distinction to “ Common Piloting,” which is the knowledge of how to coast along shore.

Is it perhaps a deficiency of this knowledge which causes all the wrecks and strandings? An epitome on navigation, lately published and presented to this society, with the belief

that the perusal of it may benefit and give much useful information to many of its members, has one expression on the day's work, which shows a great deficiency in this subject. It says, "When a vessel leaves the land, the eye of the practical seaman will determine readily and approximately its distance at that time." This is called "Taking the departure." And in the preface the author hopes in these pages will be found all that should be required at the hands of an educated and intelligent shipmaster.

Now this approximate estimation by the eye of the distance off shore, is a source of the greatest danger when the run is short to the next rocky point. The account just to hand of the stranding of the *Sorata*, near Adelaide, attributes the loss to "the distant appearance of the land." The *Dunbar*, at Sydney Heads, was lost from the same reason, and many other serious cases. But this subject of "Taking a departure," is scarcely noticed in any of our epitomes, except Raper, who devotes a whole chapter in most thoroughly discussing it. Neither is it required at examinations, although the majority of our steam trade is through the Mediterranean and Red Sea, and may be called "Common Piloting" along shore, where the peculiarly hazy and changing atmosphere prevents the most experienced men from making a correct estimate of the distance from shore by the eye.

Another remark in the preface of this new epitome shows the march of the times. It says, "The time will arrive when the Rule of Thumb Methods must be abandoned, and the reasons upon which the rules are founded will be required at examinations." Before reaching this time, we hope to see the admirable examples at the conclusion of the book on plane trigonometry, brought into use as a mark of efficiency.

These are placed in the end of the book on the same principle as Commander Hull, R.N., in his paper on Nautical Surveying, says, "An officer having passed his examinations



and wishing to ensure real success must 'educate himself down to it' by mastering the simplicities of plane trigonometry and solving the problems by construction."

Here we have the method of taking a true departure which will bear a test.

In the August number of the *Nautical Magazine* was a letter signed "F. R. M.," referring to this "Graphic Navigation," saying, "It was vastly more intelligible and interesting than wrestling with figures," which is especially true on short coasting runs, when a master's brain is tired out with constant watching, and unfit for long calculations.

Few men are aware what help they have at hand (but not used) in a sextant for measuring horizontal angles, which may be laid off on the chart with a ruler and protractor.

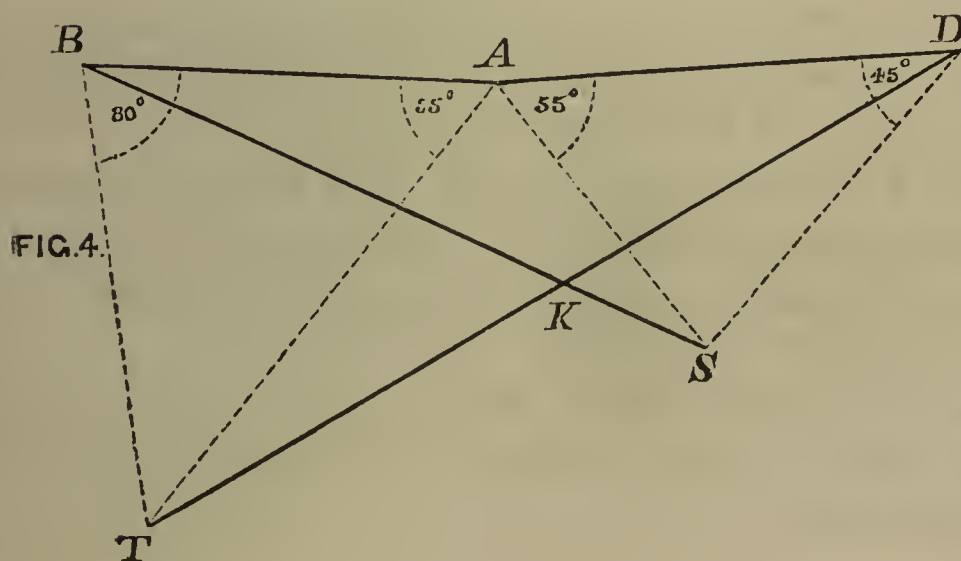
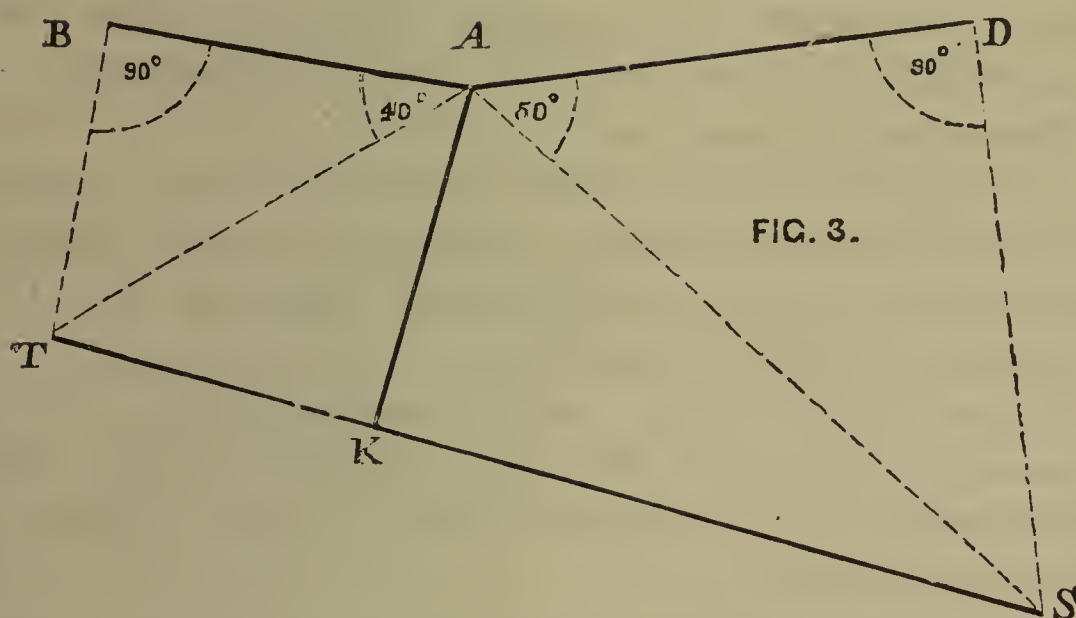
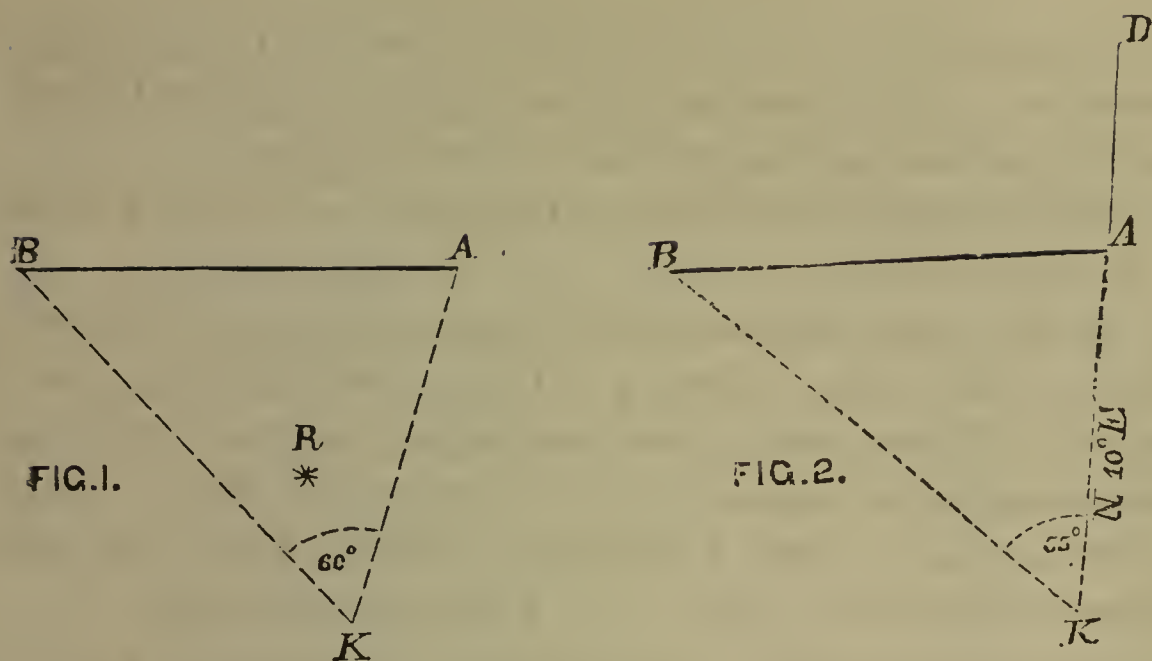
These few problems that are now laid before your notice are nothing new, but are brought forward with the hope that ventilating the subject here may be the means of assisting some men to avoid accidents which may cost them their reputation as skillful navigators.

There are not many men in steamers but who are thoroughly conversant with the method of taking a four-point bearing and the distance run in the interval, also the method of doubling the difference between the course of the ship's head and the bearing of the object with the run made in the interval.

But in these methods there is the element of time used, which may not always be convenient, such as when a fog lifts for a short time only, or the land becomes obscured by passing squalls just when an observation is wanted. But a sextant will always measure an angle, and enable the navigator to plot off his position by it.

Fig. No. 1 is the danger angle given in the Sailor's Pocket Book, which insures a margin of safety against the verdict quoted before, "Passing a rock too close at full speed." With the angle of  $60^{\circ}$  clamped on the sextant and brought to





bear in this case between two well-known headlands or marks on shore, as at A and B, it will give a safe offing outside the rock R, and should the angle become larger than  $60^{\circ}$  it is evident the ship is closer in than the point marked K, and so should be kept further out from it.

If this were well practised when no danger was near, the confidence thus obtained would amply repay any trouble, and bring our useful friend the sextant up to its true value; for surely nothing is too much trouble that will tend to ultimate success and save suspension of a certificate for some months.

Fig. 2 is for measuring the distance off shore of the ship at K, by a bearing of a mark at A, having another object at D in transit with it, and at the same time measuring the angle subtended between it and another well-known mark at B, which being laid off on the chart gives a correct departure or the next danger a-head.

This may appear to be only taking cross-bearings, which may be done with a compass. It is the same to all practical intent, but with a great source of error eradicated.

Compass bearings in iron steamers have to be corrected before being plotted on the chart. An angle measured with a sextant has not, and when several angles are taken the chances of error are much reduced by using a sextant in place of a compass.

To those who think this a new-fangled idea because they have done very well without for so long, it may be said, try it before you condemn it, and get the confidence others have had in using it as a *check* on their compasses.

Our next figure, No. 3, may be used when passing along an indistinct coast line, but yet three prominent mountain-tops or other marks in land may be visible, whose positions are well defined on the chart. Such observations may often be obtained when sights of the heavenly bodies are unprocureable owing to the clouds or the horizon being invisible through the haze.

The master of a vessel sailing along a coast observes three mountain peaks, B, A and D, whose position he recognises as marked upon the chart; being anxious to determine the place of his ship he finds, by means of a sextant, that the angle between B and A is equal to  $40^\circ$  while that between A and D equals  $50^\circ$ .

The complement of each of these angles being laid off on their own side of A will give A T, making an angle of  $40^\circ$  with A B, or the complement of the angle under which A B was observed; and the complement  $50^\circ$  of the angle  $40^\circ$  under which A D was observed being laid off at A S.

Draw B T and D S at right angles to B A and D A respectively, meeting A T and D S in T and S.

Join T S, and upon it from A let fall the perpendicular A K meeting T S in K. The point K is the position of the ship.

These six simple lines are all that need to be laid off on a chart to obtain a correct departure in preference to running on without sights during a dark night when a land fall has to be made before morning, which is common on an Eastern voyage.

The next figure, No. 4, is very similar, but has not the right angles laid off at B and D.

Having observed the angle subtended by A B to be  $45^\circ$ , lay it off on the other extreme point at D, and finding the angle subtended by A D to be  $80^\circ$ , lay it off at the other extreme point B; then add the two observed angles together and take the supplement of the sum  $80^\circ + 45^\circ - 180^\circ = 55^\circ$ , which angles lay off on each side of A to join the former lines at T and S. Then from these points T and S join D T and B S, their crossing at K is the ship's position.

Here we have again only six lines to draw from two angles measured, to utilize a sight of the mountains, to obtain a position.

Not wishing to make complications in these figures, and being cramped for space, there are other variations of this problem omitted which prove the truth of this last figure, no



matter what size the observed angles may be. So when the sum of the observed angles equals  $180^\circ$ , the ship's position must lie in a direct line between B and D.

The present object is not to give a mathematical lecture, but rather to show that "unskillful navigation" does not arise from any deficiency of knowledge in nautical astronomy, which is placed so prominently in examinations.

In the present day there is a question raised for non-compulsory pilotage at home and abroad. To insure success in ability for piloting any port a ship may find it necessary to enter, a most perfect familiarity with practical trigonometry, or "graphic navigation," so long neglected, is the great desideratum, to study which it is not necessary to have expensive instruments or books. Any handy man may make at sea all that is necessary; a straight ruler and triangle, cut from the lid of a cigar-box or other thin wood makes a perfect parallel ruler, and with a compass-card for measuring angles the subject may be mastered with a Norie's Epitome, or better still a Raper's Navigation.

H. F. HOLT.

Captain T. G. CUMMING: I have listened with great pleasure to Captain Holt's remarks, and I quite agree with him that most ships are lost from not taking a proper departure.

I have always found the officers did not thoroughly understand this, and I have therefore always made it a rule to see that all my young officers should become fully competent to do this work, and able to tell me the distance with precision.

Many officers seem never to have heard of the means of taking a proper departure and say they never saw it done before. I maintain it is impossible to judge the distance at night, whether a light be fifteen or five miles distant, but with the means now laid before us by Captain Holt, it is a simple matter, and is most valuable to all navigators.

I am afraid not sufficient attention is paid to the compasses.

We have too many pole compasses, and too much trust is placed upon them. I have always found that officers trust too much to the pole compass, but few can take an azimuth. It is easily learned but few care to do so, finding it irksome.

Again I am afraid many when they have obtained their master's certificate, discontinue studying navigation, finding it distasteful to them.

Captain HALPIN: Whilst agreeing with the general observations read by Captain Holt, I do not take so dismal a view of the Wreck Register as he does, nor do I think that the casualties are always brought about by unskillful navigation of masters. I believe it rather to be owing to the lack of knowledge of practical navigation so apparent in officers of the present day, who are not of sufficient assistance to the master in carrying out his numerous and arduous duties.

The master cannot always be on deck, and unless he is well backed up by efficient officers, his own skillful navigation is not of much value.

I have noticed in many cases that the casualties have arisen from a want of support. The powers of endurance are limited, rest is an absolute necessity, and the master must leave the deck, but unless his officers carry out their duties properly a casualty is brought about.

The system of these problems, I regret, is not carried out. Sometimes it arises from ignorance, or neglect, and then skillful navigation becomes useless. If we could only impress upon all our officers the value of these problems, and induce them to carry them into practice, I think it would be a good thing for the service.

Captain WOOLCOTT: I maintain that much neglect of officers is brought on by the masters themselves, who do not take that interest in the young fellows that they should, nor do they avail themselves of the assistance which doubtless many could afford. Take for instance the *Worcester* boys, who have been carefully and thoroughly trained; they



can take azimuths and can work out calculations most correctly.

I have seen numbers of these *Worcester* boys who have made voyages with various masters, and on asking if they worked out their reckoning day by day they replied, "Oh, no, Captain Woolcott, we never touch a sextant." Now if this is so, and I know it to be a fact, how can masters expect help if they do not keep the boys up to their work. If they are not allowed to carry into practice what they have learned to do with ease and accuracy, it cannot be a matter of surprise that they will forget such work, and I repeat the masters are to blame and not the boys.

I have always had the aid of my officers and they are of great assistance to me. They have their A and B card, and I have not to wait half an hour till they have worked out the longitude. Such assistance can be derived from the *Worcester* boys, but they must lose their knowledge if our master mariners do not see that they keep up to it.

Captain CUMMING: I quite agree that it is the masters who are in fault in not taking an interest in the officers and boys. I know it is a practice of many not to permit their officers to see the charts, and this I consider to be a great mistake. Frequently officers do not have free access to the charts and consequently are not handy with them, but by permitting them to examine all charts at any time they will take an interest in their duties and will materially assist the master in the navigation of the vessel.

The CHAIRMAN (Captain John Williams): I quite concur with the last speaker that many masters do not allow their officers to improve themselves. I hardly knew an instance, when I first went to sea, where the master would allow me to get a chronometer observation. Perhaps it was well in my instance, as I was always taking lunars by my watch, and so became, if I may be allowed to use the term, a skillful lunarian. All the years I was chief mate the captain would



never let the people know where they were, and everything was kept a secret from the officers. When I obtained command the chart was common property, and I always put a log-slate for the passengers' information. The boys—and I had six *Worcester* boys—had freedom to go into my cabin whenever I was on deck, and they regularly worked out the day's reckoning. I think all masters should let their chief officers have a knowledge of all the shore business. Take them into your confidence, give them every facility, and they will then be enabled to learn all the duties of a master mariner and fit them to command. If masters would take the boys by the hand they would make good commanders.

Captain HOLT: I have been most thoroughly pleased by the manner in which you, Gentlemen, have received this paper, and I trust it will prove to be of service to many. We know that the *Worcester* boys are thoroughly kept up to their duties and can be of great assistance to masters, but unfortunately we cannot all be supplied by the *Worcester*. I only wish we could, for then we should not have so many accidents. A remark has been made in reference to my view of the Wreck Register. The cases I have referred to are only those published in the *British Merchant Service Journal*, the cases where certificates have been dealt with, or only the black side, and it has therefore appeared a gloomy aspect.

Most definitely it is my firm belief that a great deal has to be done to increase the actual ability of the coming men in navigation and to get rid of our forefathers' Rule of Thumb.

It is very far from my intention to speak disparagingly of this book of Mr. Read's, except so far as it has fallen into the same mistake as most others, eclipsed "Common Pilotage" with "Proper Pilotage" or Nautical Astronomy.

A vote of thanks to Captain Holt for his paper terminated the proceedings.

## “COSTS” IN OFFICIAL INQUIRIES.

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**A**MONGST the anomalies in the proceedings of Courts of Inquiry, there is perhaps none more striking than those portions of the judgments which relate to the question of costs. Having for some time past devoted attention to this subject, we feel it to be one well deserving our consideration and the consideration of the various Societies established for the purpose of watching over the interests of shipmasters, and we trust that what we now propose to lay before them and our readers will materially assist their deliberations. Though we must premise for their general information that unfortunately the more they study the Official Reports the less they will understand the grounds upon which “costs” are allowed, or to speak more correctly, not allowed.

Subsistence money paid to witnesses on these Courts of Inquiry appears to be involved in some cases with the question of costs, and it is our intention on the present occasion to quote several instances where costs have been refused, and where the incongruity of the reasons for the same are most striking. For instance:—

“CERWYN,” S.S.—REHEARING.

- \* “We were of opinion that as the master had been held to blame for the casualty . . . the master was not entitled to his costs.”

“ESSEX.”

- \* “An application on behalf of the owner for his costs was refused, it being, in the opinion of the Court a very proper case for an inquiry.”

“JOSEPH FERRENS,” S.S.

- \* “As regards the costs, seeing that the owners did not produce Captain Brunton nor the Board of Trade Mr. Ramsay on the last occasion, and

that both these gentlemen have thrown a totally new light on the case we shall not give costs to either party.”

“ BROOMHAUGH,” S.S.

\* “ Mr. Hamel having stated that the Board of Trade did not ask for costs there will be no order as to costs.”

The foregoing extracts will doubtless account for our inability to understand the grounds upon which the decisions of the Courts in reference to costs are arrived at. On reading the first-quoted case where a master is refused costs owing to his being in default, one is justified in assuming that a master when found not to be in default would be entitled to his costs. The second, when an owner is refused costs as the inquiry is considered a proper one, one is tempted to ask whether the Court would be likely to express its opinion (even if it entertained such a view) that the case upon which it had been adjudicating was not a proper case for an inquiry. The third case, namely, that of the *Joseph Ferrens* rather tends to confirm the idea that parties who may succeed in clearing themselves from all blame would be entitled to their costs, but we know from experience, and it will be seen from cases to which reference will be presently made, that apparently some pretext always readily suggests itself whereby the Board of Trade may be relieved of the costs, as an order upon that Department for the same would of itself be tantamount to the expression of the Court's opinion that the case brought before its notice was frivolous.

At the termination of the inquiry into the circumstances attending the loss of the s.s. *Nora*, the Court reported thus : “ It does not appear that any person is to blame for the casualty, and *certainly not* the master, officers, or any one on board . . . . The vessel was navigated with exceptional care and skill. Mr. Nelson, on behalf of the master, asked for costs against the Board of Trade, but the Court was of



opinion that no costs should be allowed. Mr. Nelson having admitted that the case was a very proper one for an inquiry, and it appearing also that the master would receive detention money as a witness at the usual rate; under the circumstances no order was made as to costs." Again, at the inquiry into the accident which occurred in the early part of the year to the s.s. *Chimborazo*, "The Court found that the ship was navigated in a careful and seamanlike manner, and that the casualty was caused by the perils of the sea. The inquiry was a very proper one, and throughout the owners and the ship had maintained the high repute they had always borne. The Captain could look upon the result of the inquiry and the opinion of the Court as a further testimonial to his conduct on the occasion of the accident. The Court makes no order as to costs."

As the foregoing indicate that there is an apparent desire on the part of the Courts to avoid making an order upon the Board of Trade for costs, so likewise the following instance will prove that whatever be the cause for refusing shipowners and shipmasters their costs, there is no hesitation shown by the Court in mulcting such parties of costs and often of very heavy sums to be paid to the Board of Trade.

"JONES BROTHERS," S.S.

- \* "The owners were found to blame, and were ordered to pay £100 towards the cost of inquiry."

"MARLBOROUGH," S.S.

- \* "The owner found to blame, and ordered to pay £250."

"MAGLONA," S.S.

- \* "The master was in default. The Court adjudges that the master shall pay the sum of £5 towards the expenses of this inquiry, but under the circumstances refrain from dealing with his certificate."

“ FAIRHEAD,” S.S.

\*

“ The Court do not think it necessary, in consequence of the high character borne by the captain, to deal with his certificate, but severely reprimands him. The Court further directs that the captain pay £10 to the Board of Trade towards the cost of this inquiry.”

Of late years the Courts seemed to have regarded masters and officers who were called upon to appear before them in reference to the circumstances attending certain casualties to vessels under their respective commands as quasi-criminals, and the manner in which these gentlemen were treated was most offensive. The passing of the Shipping Investigations Rehearing Act roughly disabused the learned judges' minds of the idea, and they must now realise the fact that inquiries instituted by the Board of Trade can only be regarded as Civil Cases, and therefore to be treated with the consideration such cases deserve.

The hardships inflicted by not allowing costs to masters who have succeeded in clearing themselves before a Court of Inquiry must be apparent, but apart from the serious expense entailed by engaging counsel to protect the interests assailed, there is the injustice of the action.

The Legislature have made very elaborate rules for the procedure of Courts, and have framed a scale for taxation of costs, and this with the object of securing to those parties who come scatheless out of inquiries their costs; or else why is such provision made?

That it is the undoubted right of successful parties to claim and be allowed their costs, is clear from the ruling in the Court of Appeal in the case of the *Arizona*, which, be it observed, was heard in the Admiralty Division by Sir James Hannan and Sir R. Phillimore, assisted by Assessors.

The Court, though not going the length of bestowing such praise upon the master as has been done in the cases of the

*Nora* and *Chimborazo*, decided in favour of the appellant, and ordered that the Board of Trade should not only defray the costs of the appeal but should also bear those of the inquiry in the lower Court. The case of the *Nora* before referred to exemplifies what we have already stated that the question of costs and the allowance granted to witnesses is in some manner involved. The Court herein stated: "The master would receive detention money at the usual rate." But what is the usual rate? Considerable diversity of opinion exists, and for such there appears to be good cause. We could supply instances where X., Y., and Z., all of whom have come out of the inquiry with flying colours, have been allotted 21s., 17s. 6d., and 15s. per diem respectively.

The treatment to which our friends have been subjected is not exceptional, and that it does not reflect credit upon the promoters of these inquiries is evident from the complaint made by a witness in the case of the "*Queen v. Garbutt*," *re* "*The Marlborough*," who had only been offered second-class railway fare and two guineas a-day. Lord Justice Baggalay advertng to this, said: "He thought it a disgrace that a gentleman like this was not given a fair sum for his services, independent of what was allowed on taxation." How does this difference in amounts paid arise, and why should witnesses be offered a second-class fare, not only by land but also by sea?

The numerous letters addressed us on this subject are a sufficient guarantee that witnesses are not treated with the consideration and respect to which they are entitled.

One correspondent in particular tells us that having been summoned from the continent to give evidence on a very important Board of Trade Inquiry, he was munificently allowed a "fore-cabin passage!" precisely the passage a crew would be given on being discharged abroad. Do the authorities not realise that such treatment is grossly offensive to master mariners, who are supposed to be educated men,



and to have some social standing, or they would not be elected to fill the various positions some of the body do, such as Members of the Trinity House, Commissioned Officers in the Royal Naval Reserve, or Nautical Assessors.

It is ridiculous to expect a commander to be looked up to and respected by those under him, when he is treated in such a shameful manner; and it is an insult to offer him a passage where he would have to mix with probably some of his own crew, bullock drivers, or distressed British subjects, and criminals sent home by one of Her Majesty's Consuls.

There is still one point to which attention should be directed, and it is this, the expenses paid in "Suits and Prosecutions under the Merchant Shipping Act" are allowed as paid to a witness on the inquiry, whereas the party so designated may have virtually been on his trial for the casualty, and it thus appears that he is defendant, or only witness, as it may seem best to the solicitor for the Board of Trade when the Inquiry is *over*. This is truly an anomalous state of affairs, and one which should be speedily rectified.

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## THE MERCANTILE MARINE.

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### II.

IN a former article upon this subject (see October issue of the *British Merchant Service Journal*), we drew attention to the causes which are tending towards the rapid concentration of the shipbuilding and ocean-carrying trade of the world in the hands of this country. It may be well, before developing other considerations of a relative nature, to observe the extent to which this concentration has already gone. Twenty years ago British shipping was inferior in tonnage and in effective carrying power to the aggregate tonnage of other countries; the reverse is now the case, British tonnage

considerably exceeding that of all other countries, more especially when its efficiency as a steam marine is taken into account. It also appears to be certainly increasing in proportion from year to year. In the Board of Trade Return for the present year, it is stated by Mr. Giffen that the tonnage of the British Empire may be reckoned at 8,500,000 tons, equal in effectiveness to 16,000,000 tons, while that of the rest of the world may be placed at 8,200,000 tons, equal in effectiveness to about 11,000,000 tons only. "While the proportion of British shipping in 1860 was only about 47 per cent. of the shipping of the world, it is now about 58 per cent., the tendency being for the proportion to change still more rapidly in our favour." A survey of the causes which have been at work in bringing about this vast change, and which are operating still with much more force than ever, will tend, we think, to show that the future of British shipping promises to be even more wonderful than its past.

We have already, in the article mentioned above, exhibited how great have been the influences at work in our favour in the substitution of iron for wood in shipbuilding, and of steam for sail power. The substitution of steel for iron which is now proceeding with singular rapidity, is a change of like nature, and will have the same effect of bringing shipbuilding and maritime trade more and more into our hands. The employment of steel as a shipbuilding material is not by any means a novelty. Now and again, for special purposes and with exceptional objects to accomplish, builders have in times past resorted to steel in preference to iron, and have built of it successful steamers. Messrs. Samuda, Brothers, who have just contributed two exceedingly fast steel steamers to the Channel service between Folkestone and Boulogne, have on several occasions turned out steamers built of steel with complete satisfaction to themselves and their customers. Messrs. Laird, of Birkenhead, and other builders have done the same. The employment of such vessels is said to have



frequently resulted in even greater advantages than their constructors anticipated, because of the remarkable manner in which they have withstood the blows and pressures of the bottom in cases of stranding, touching rocks, and similar accidents. Mr. Samuda, in his speeches at the Institution of Naval Architects, has frequently borne testimony to facts of this kind, and at the last meeting of that Institution, held this year, Mr. William Denny, of Dumbarton, gave similar evidence concerning a vessel built of the description of steel now largely employed. Mr. Denny said :—

“ In 1876 we made our first acquaintance with the mild steel now in use, when we built for the Irrawaddy Flotilla Company a light-draught paddle steamer, called the *Taeping*. All the skin and stringer plates of this vessel were of Bessemer steel, the rivets being of iron. We had perfect satisfaction in the working of this material, and the steamer after being put together in Rangoon fully evidenced the value of steel for vessels of her type. On one of her earliest trips she struck on a snag in the Upper Irrawaddy, but came off safe and sound, her plating heavily indented, but unbroken. We were informed by the superintendent engineer of the company he was of opinion that if she had been of iron she would have gone down under the circumstances.”

It is to incidents of this kind, occurring from time to time for many years past, that we owe the persistent attempts of naval architects to employ steel as a shipbuilding material ; but for them, the prejudices against it as brittle and untrustworthy would never have been overcome. The primary incentive to its use always was, and still is, of course, the saving of weight, and consequent increase of carrying powers, which attend its use. Even in land structures economy of weight is often of great importance, but in marine work it is of paramount consideration. Lloyd's Rules allow, when steel is used, a reduction of 20 per cent. from the weight of iron in some of the principal elements of



the ship's structure, and although there are circumstances which unavoidably reduce the saving to about 14 or 15 per cent., the advantage that remains is still great. No words of ours are needed to show how important must be the gain to the shipowner who, by the use of steel in lieu of iron, is able to save 150 tons out of every 1000 tons in the hulls of his ships, and thus to carry under like conditions 150 tons more dead weight of cargo than his competitor whose ships are built of iron. It is obvious that such a gain as this must be worth even a very large addition to the first cost of his vessels, because while that occurs but once, the increase of the freightage is permanent, and adds largely to the receipts of every fully-laden voyage made.

The use of steel is, of course, open to all the world, but those who are acquainted with the history of its recent production in large quantities, and of its application to shipbuilding on a large scale, will understand how improbable it is that foreign producers, either of steel or of ships, will come into general competition with this country. The outlays of our steel manufacturers upon experiments and tentative efforts to produce the kind of steel requisite, or at present pronounced requisite, for shipbuilding purposes have been truly enormous, and such as only very wealthy firms and companies could have incurred. We remember visiting, three or four years ago, one of the large establishments which had undertaken a contract for steel shipbuilding plates for the Admiralty, and saw as many as ten or twelve plates rolled in the course of the day, every one of which proved to be worthless for the purpose. Other firms had similar experiences, and the wonder is that private enterprise proved in this case, as in that of armour-plate production, sufficiently enduring to press on till success was achieved. Although other processes are largely employed for the purpose, it is doubtful if these efforts would have been commenced but for the splendid invention of Sir Henry Bessemer, which so cheapened and

enlarged the production of steel generally as to offer irresistible attractions to the shipbuilder. Yet the early attempts to employ Bessemer steel plates in shipbuilding were not at all times satisfactory. Repeated outbreaks of the treacherous nature of the material caused serious alarms ; plates that had stood every test with perfect satisfaction, and had borne working and riveting into the hull without sign of refractoriness or of brittleness, were found suddenly to crack from edge to edge, the crack passing in a purely arbitrary line across the plate, going sometimes quite close to rivet holes without in any way being attracted to them or influenced by them. The great object of the steel-maker clearly was to obtain, in conjunction with a large excess of tensile strength as compared with iron, so much mildness or ductility as would be incompatible with the hardness which led to these arbitrary and wanton self-fractures, so to speak. The Admiralty took the matter up, and, acting upon the wise advice of Mr. Barnaby, invited manufacturers to supply steel plates under the condition that they should not exceed 30 tons nor fall short of 26 tons per inch in tensile strain, while at the same time proving their ductility by certain bending and punching tests which were prescribed. To be steel at all of good quality and yet to break at a strain of not more than 30 tons per inch was in itself almost a guarantee of great ductility, and a safeguard against such dangerous self-fracture as we have described. Following upon the same lines, Lloyd's Register Office soon after adopted steel, and laid down special rules for its use, raising the limits of tensile strength above those of the Admiralty by one ton. The Liverpool Underwriters' Registry adopt a standard still higher by one ton, and have dropped the very important requirement of a definite elongation (about 20 per cent.) before fracture while the specimen tested is under the pulling strain. The steel manufacturers have made the most praiseworthy and successful efforts to conform to the require-



ments of the Admiralty and of Lloyd's, and by aid of the recent developments of chemistry and metallurgy have secured the most complete success. Ships of the largest class, and subject to the strains of the most powerful steam machinery in the world, are now being constructed of steel, both for the Royal and for the Mercantile Marines of this and other countries.

So great have been the improvements of late in the construction of shipbuilding steel, that already an agitation may be said to have commenced in favour of either greatly raising, or removing altogether the superior limit prescribed by Lloyd's and the Admiralty for its tensile strength. It is contended by persons well acquainted with the subject that it is perfectly possible, with the experience now acquired, and by aid of the processes now in vogue, to produce steel plates possessing a strength greatly exceeding the Admiralty *maximum*, without impairing, or without seriously impairing, the ductility which is admitted on all hands to be strictly necessary. It is not denied by any that as the strength of the steel is increased the liability to chill and harden and fracture under strain is increased proportionally. But it is contended that any evil results are sufficiently guarded against by the bending tests and tests of temper, which are independently applied, and that the limitation of strength imposed in addition to these is unnecessary. As might be expected, some of the producers of steel favour this view, while the authorities intrusted with the responsibility for the ships built—viz., the Admiralty constructors and Lloyd's surveyors—are disposed to resist and question it. The shipbuilders, for the most part, take a neutral position, while those who build the light, fast, steel torpedo boats that have come into use desire to see the strength increased. In a public discussion of the subject, Mr. F. J. Bramwell, an eminent authority, pronounced it most unwise to compel the makers of the material "to make it as weak as a certain



standard after you have satisfied yourself that it is sufficiently ductile." But Dr. Siemens, also an eminent authority, urged the contrary view, although himself a steel manufacturer, contending that while the harder material needs annealing, especially after punching and working, the milder material does not require this, as it undergoes punching and working without reduction of strength or ductility. It is not a point upon which we care to speak with dogmatism, but we have no doubt that in the near future the superior limit of strength will have to be abolished as a needless restriction upon enterprise. It has doubtless served a very useful purpose, and is still serving it to some extent; but the necessity for it is passing away, and it is already being felt to operate as a bar to the due development of the steel-plate manufacture. As at present fixed, even by Lloyd's, it keeps steel, with its admirable range of strength and other good qualities, much too near to the limitations of iron. Practical authorities are pronouncing strongly in favour of a change. Sir John Allan, who has had a long and most intimate acquaintance with both iron and steel, recently spoke of iron beams which were within 1 per cent. of the strength prescribed for steel, and said, "When you can do that with iron, I want to know what is the good of the steel, as now limited in its strength. I think you are sacrificing some of its qualities in insisting on a low test." Mr. J. C. Kirk, an engineer of much eminence on the Clyde, took the same view, pointing out that in keeping the steel very low in strength we were sacrificing much of that stiffness which is almost as essential in a ship as strength, "buckling" or crumpling up being obviously a danger the tendency to which increases as the strength of a ship's plating is obtained by a material of diminished thickness. He added that, in his opinion, it would be practicable and desirable to produce and employ for shipbuilding purposes a steel of 35 or even 40 tons per square inch in strength. This is not a matter for hasty or inconsiderate change, but it is one that

must not be lost sight of, for everything which contributes to the improvement of naval architecture and of shipbuilding materials contributes, at the same time, to the pre-eminence of our country in the greatest of all our industrial and international competitions.

Before turning from this question it will be well to observe that with the introduction of steel has come about an altogether novel and satisfactory state of things as regards the selection and testing of shipbuilding materials. In the days of iron, the public were too often scandalised by revelations concerning the employment by shipbuilders of iron so inferior in every requisite quality, that "ship plates" became known as the worst of all iron plates, and this worthless material was but too often put even into large-class ships, without being subjected to any of those tests which would have made its inferior qualities manifest. With steel the case is wholly different. The most scientifically devised tests are applied with the utmost care. Lloyd's Committee require—

"That every plate, beam, and angle supplied for steel ships shall be clearly and distinctly stamped in two places with a brand denoting that a shearing from the plate or angle so marked has been successfully bent cold after being tempered as described in the temper test, and that the plate or angle in question is capable of withstanding the whole of the tests."

In this way the use of steel is beneficial not only by virtue of its inherent superiority to iron, but also by virtue of novel tests which put its excellence beyond question. It is, therefore, both with our material and also with our elaborate securities in the selection and working of it, that foreigners who would rival us must compete.

As in the material of construction, so in the art of combining plates and angle irons and beams into one strong and durable hull has the progress made of late been very great. The investigations of Mr. John show how needful it



is to carefully regard the strains to which, as scientific investigation demonstrates, all ships are subjected in waves of certain proportions. The best method of constructing ships to withstand more particularly the longitudinal strains to which long ships are exposed has long been a matter of investigation by naval architects. In the *Great Eastern*, either Mr. Brunel or Mr. Scott Russell, or both together, adopted a longitudinal system of framing of a very novel and remarkable character, eminently well adapted, as the result has shown, to impart to her that immense structural strength longitudinally which a vessel nearly 700 ft. long required. When the Admiralty began to build iron ships of great length—the *Warrior* and *Black Prince* being the first of them—the Chief Constructor of that day, Mr. Isaac Watts, adopted both the transverse and the longitudinal system of framing, in order, doubtless, by a ready method, to make assurance of ample strength doubly sure. Mr. Reed, in the *Bellerophon*, set this system aside as too heavy and unscientific, and adopted a longitudinal system, with some simplifications of construction, which has since been usually adopted in war ships. In the Mercantile Marine the transverse system of framing has prevailed down to the present time, the structure being reinforced with longitudinal strength, as the length and dimensions of merchant steamers increased, by the increase of all the longitudinal strengthenings and the introduction of additional ones. The general introduction into the Merchant Service of double-bottoms, or of water ballast tanks in the bottom of the ship in some form or other, has favoured many changes of construction, and excited much debate, and even controversy, among shipbuilders. To pursue the subject here would be to enter into technical details that would be out of place in our columns. Our object in adverting to it thus far is to point out the remarkable fact that our progress in merchant ship construction is no longer either traditional



or haphazard, but scientific, and scientific in the best sense—viz., the result both of theoretical research and of practical skill. Instead of following analogies drawn from the building of ships in wood—a material entirely unlike iron and steel in almost every quality—our iron-ship builders and builders of steel ships now treat the skin-plating of the ship, which is, of course indispensable, as that to which all other parts must stand primarily related ; then come the transverse bulkheads and the horizontal decks as the chief secondary elements, which themselves furnish much general strength and stiffness to the structure, the remainder being supplied by whatever system of framing the owners or builders prefer. In small vessels, to say the least, the longitudinal strength is sufficiently provided for by the skin-plating, the decks, and the keelsons alone, so that the builder is free to give whatever further local strength and stiffness the skin-plating may require by any approved method. In larger vessels a longitudinal system of framing, with a cellular double-bottom, is often resorted to, either for additional safety in taking the ground, or for more commercial objects. But this is not always the case, nor in the opinion of Mr. John, who is a very high authority on this subject, is the arrangement necessary for strength only. He quite recently said :—

“ Many of our large ocean-going steamers of 400 ft. and upwards are provided with ample longitudinal strength by the simple method of iron decks, skin-plating and keelsons, without involving any excessive weight of hull ; and the largest ship building at the present time—viz., 550 ft. in length, for the Inman Line—is equally well provided in the same manner.”

It will be satisfactory to our own public and to the world at large to learn that the present wonderful development of the British Mercantile Marine is attended by, and is probably in no small degree the result of, great advances in both the theoretical and practical science of naval architecture.—(*Times.*)

## THE SHIPMASTERS' SOCIETY.

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WITH the object to further extend the benefits to be derived by joining the Shipmasters' Society, the Committee have for some time past given their attention to the representations made by masters and officers stationed in foreign waters that they would not participate in those benefits which the Society affords to its members when called upon to appear before a Court of Inquiry.

Steps are therefore being taken to supply this requirement, and members both abroad and on the Home station will be put upon an equal footing.

The Society is in communication with its Agents at the principal ports, with a view to ascertaining the names of legal men whom it would be desirable to select for the defence of master mariners. When arrangements have been made, the Society's Agents will be authorised to investigate the statements of members who may call for advice concerning pending enquiries, obtaining if possible the presence and assistance of members of the Shipmasters' Society who may be in port.

In the event of the statement convincing the agent and his assistants that the case is worthy of the support of the Society, he may recommend the member to apply to the recognised solicitor who shall then be empowered to use the moral influence of the Society on behalf of the member he is defending. It is to be distinctly understood that all law charges will be defrayed by the member incurring the same, but such member may forward the costs to the Committee of Management of the Shipmasters' Society in London, and request that his case be considered under the provisions of Section IV. of the Memorandum of Association of the aforesaid Society, viz.:—

“To defray such legal expenses as the Committee of Management may think it advisable to incur in the interests of its members, subject to the rules, whether in watching any legal proceedings which may in the opinion of the Committee of Management involve the interests of the Mercantile Marine of England, or of one or more of its members, or in affording legal assistance to, or providing Council for, such of its members as may have to appear in a court of law, or on an official inquiry; but the funds of the Society shall not be applied in defending any of its members in case of negligence, or of culpable misconduct.”

The above form the lines upon which the scheme is to work, and so soon as the final arrangements have been made we will notify the same, and inform our readers as to the districts which will come under the supervision of the Society's Agents.

The Committee of the Shipmasters' Society earnestly hope that the thus proposed extension of the benefits of the Society to Foreign Ports will prove welcome intelligence to the numerous masters and officers therein directly concerned, and will induce all who have not yet identified themselves with the Society to forward their names and fees, and be enrolled as members.

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## WIDOWS' AND ORPHANS' FUND.

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THE claims of the widows and orphans of masters and officers of the Mercantile Marine, too long neglected, are at last likely to receive consideration, and there appears to be a desire that the Committee of the Shipmasters' Society should be in possession of a fund which will enable them to give aid to the widow or orphans of any members who might be so unfortunately situated as to require such assistance.



The nucleus of a fund has already been formed, several gentlemen having kindly come forward with donations trusting that their example will be followed. Others again have have promised certain sums on the condition that within twelve months from this date a fund of not less than £500 shall have accumulated. It is earnestly hoped that a regular system of Annual Subscriptions and Donations will be inaugurated by the members of the Shipmasters' Society, in order to afford assistance to the relatives of a deceased brother Shipmaster.

We urgently appeal to the benevolent to lend their substantial aid to the Committee of Management of the Shipmasters' Society, so that a sum may be raised which, augmented by Annual Subscriptions and Donations, will provide the Committee with the means to render assistance to ladies whose sad cases it is now unfortunately not in their power to entertain.

Subscriptions and Donations may be made payable to BENEDICT F. CRAMER, Esq., Secretary, Shipmasters' Society, Jeffrey's Square, St. Mary Axe, London, E.C., who will gratefully acknowledge all amounts remitted for this laudable object, and will notify monthly in the pages of this publication the progress the fund is making.

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LAUNCH OF A STEAMER.—The Barrow Shipbuilding Company have launched from their yard a 5,500 ton steamer, named the *Furnessia*, built to the order of the Barrow Steamship Company, and intended to trade in the Anchor Line service between Glasgow and New York. This steamer is the largest vessel ever launched in England, with the exception of the *Great Eastern*. She is fitted for 200 cabin, a few second-class, and 300 steerage passengers. She will be ready for sea in about two months.

# OFFICIAL INQUIRIES WHERE Reported since

| Ship.                     | Casualty.   | Loss of Life. | Inquiry.   |
|---------------------------|---|---------------|--|
| <i>Capri...</i> ...       | Stranded on Muness Point, Unst, 11th September, 1880.       | ...           | Leith :<br>Pentland,<br>7th October, 1880.   |
| <i>Paul Boyton...</i> ... | Stranded on Goodwin Sands, 19th September, 1880.            | ...           | Westminster :<br>Wreck Commr.,<br>8th October, 1880.                                   |
| <i>Strathmore</i> ...     | Abandoned near Table Bay, 4th September, 1880.              | ...           | Cape Town :<br>J. Campbell, R.M.,<br>September, 1880.                                  |
| <i>Zennia</i> ...         | Parted her cables and was driven on shore, 21st July, 1880. | ...           | Durban :<br>Resident Magistrate.   |
| <i>Jeddah, s.s.</i> ...   | Abandoned, 7th August, 1880.                                | ...           | Aden :<br>Goodfellow, G.R.   |
| <i>Drumclog</i> ...       | Stranded near Diamond Island, 30th June, 1880.              | ...           | Bassien :<br>Munro, W.,<br>19th July, 1880.  |
| <i>Banner</i> ...         | Stranded on Pedro Bank, 1st August, 1880.                   | ...           | Liverpool :<br>Raffles,<br>19th October, 1880.   |
| <i>Apollo, s.s.</i> ...   | Stranded on Holy Island, 26th September, 1880.              | ...           | Glasgow :<br>Brown, J.,<br>Hamilton, R.,<br>Presiding Justices,<br>22nd October, 1880. |

## FOG - SIGNALS.

THE New Regulations for the Prevention of Collisions at Sea provide that in a fog all vessels shall make use of certain signals, which are to be given by means of steam-whistles or fog-horns. A steamship under way shall, at intervals of not more than two minutes, give a prolonged

## CERTIFICATES HAVE BEEN DEALT WITH.

1st October, 1880.

| Nautical Assessors.   | Finding of Court.   | Decision.   |
|-----------------------|---|---|
| Ward, C.Y.<br>Cowie.  | Vessel not navigated with proper and seamanlike care and skill. | Master's certificate suspended for 3 months. Lower grade granted.                     |
| Hight.<br>Curling.    | Ship not navigated with proper and seamanlike care.             | Master's certificate suspended for 6 months. Lower grade granted.                     |
| Penfold, R.N.         | Great want of prudence and professional ability.                | Master's certificate suspended for 12 months.   |
|                       | Want of due precaution.   | Master's certificate suspended for 3 months.  |
| Hayne.                | Master guilty of gross misconduct.                              | Certificate suspended for 3 years.  |
| Haden.<br>Blake.      | Master in default.  | Master's certificate suspended for 6 months. Lower grade granted.                     |
| Ward, G. W.<br>Cowie. | Master and Mate both in default.                                | Master's certificate suspended for 3 months; that of the Mate suspended for 6 months. |
| Ward.<br>Parfitt.     | Mate to blame for not calling the Captain when fog set in.      | Mate's certificate suspended for 3 months.  |

blast with her whistle. A sailing ship shall notify that she is on the starboard-tack by one blast on her fog-horn, when on the port-tack by two blasts, and when with the wind abaft her beam, three blasts in succession.

Such signals will no doubt intimate the proximity of the vessels, but they do not contribute any definite information as to the course being steered.



As we may assume that in time it will be considered requisite that all vessels when overtaken by a fog "should be enabled to know with some tolerable degree of certainty what the other ship is doing," we think our readers may be interested in a brief description of an instrument recently exhibited to the members of the Shipmasters' Society, and with which they were evidently pleased.

By the system introduced by the Barker Marine Signalling Machine, the thirty-two points of the compass are divided into eight parts, each of which is known by a combination of long and short sounds. Capt. Barker, who, we understand, has been working at the problem of fog-signalling for some years, has arranged a code, from which it will be seen that the signals which commence with a long sound indicate that the vessel is steering to the eastward, while those beginning with a short sound indicate a westward course :—

|         |                      |
|---------|----------------------|
| — — —   | North to North-east. |
| — — — — | North-east to East.  |
| — — —   | East to South-east.  |
| — — — — | South-East to East.  |
| — — —   | South to South-west. |
| — — — — | South-west to West.  |
| — — —   | West to North-west.  |
| — — — — | North-west to North. |

The machine by which the signals are given is of simple construction, and it can be placed on any part of the vessel which may be most convenient. It can be operated by hand or by steam power. The machinery of the signal consists of a cylinder and a plunger, the motive power being applied by a crank fitted with gearing. The signals are regulated by the compass, and are as accurate as the needle itself. On the top of the cylinder is a revolving dial-plate, on which are engraved the eight principal points of the compass. Now suppose a vessel to be steering any course, say from N. to N.E. The dial plate is revolved until the letter N is in range

with the vessel's bow, and the machine is ready to signal the vessel's course. The man on duty turns the crank. The plunger rises, and compresses air in the cylinder, which at the same time begins to revolve the dial-plate from N. to N.E.; and as it passes, the signal for the octant—viz., one long and two short blasts—is delivered. When the dial-plate has made one-eighth of a revolution, the letter N will be at the N.E. point; here the crank gearing disengages itself, and the plunger drops, while the cylinder revolves to its original place, and the N swings back to its first position, and the machine is ready to repeat the signal again and again. So long as the N is placed at or revolves back to the starting-point, no other signal than the one that indicates a course between north and north-east can possibly be made. Any change of course can be immediately indicated by the same process.

At the exhibition above mentioned, this machine was worked by hand, and the various signals given by means of a fog-trumpet. The sound which was purposely arranged so as not to be of full power was very clear, and the intervals were so distinct as to be easily understood by those present.

Captain Barker, writing to thank the members of the Shipmasters' Society for the privilege of exhibiting the machine in their presence, says:

“The question was asked, Why not give the *actual* course steered in fog, and on dark nights, by sound?

“In answer to the above, I would say: the fewer the signals, the less chance for confusion; to give the actual course steered by sound, would necessitate thirty-two distinct signals. We are prepared to give thirty-two signals correctly with this mechanism, but the difficulty is making them understood *instantly*, by any one within hearing. To avoid complication we give the *approximate*, instead of the *actual* course having only *eight signals* to show within two points, the actual course made by the vessel giving the signal. In

fog, and on dark nights, we are supposed to act promptly, and give any dangerous object a wide berth. To know the approximate course steered by an unseen vessel (but within hearing of sound), would assist very much and lessen the chances for collision. The code and mechanism have been so arranged and constructed that with the conformity of all Maritime Nations, each may give and understand the signals instantly."

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## CORRESPONDENCE.

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### " SHIPS' LIGHTS SIGNALS.

" Board of Trade (Marine Department),

" Whitehall Gardens, S.W., Oct. 20, 1880.

" The Secretary, Shipmasters' Society,

" Jeffrey's Square, St. Mary Axe, E.C.

" SIR,—In reply to your letter of the 15th instant, requesting to be informed whether, under Art. 5 of the New Regulations for Preventing Collisions at Sea, all vessels, whether steam or sailing, are required to carry the lights and shapes referred to therein, I am directed by the Board of Trade to inform you that all sea-going vessels not under command are required to show the lights and shapes mentioned in Art. 5.—I am, Sir, your obedient servant,

" (Signed) GEORGE J. SWANSTON."

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### FOG AND THE COMPASS.

*To the Editor of the "British Merchant Service Journal."*

SIR,—Reading the papers which have appeared in your publication, entitled, "The Effect of Fog on the Compass," and observing that masters are invited to forward their views and experience on this subject, I readily do so.

Having been nearly 20 years in command of steamers crossing to the Continent, and having made over 3,000 passages



whilst in command, my experience in a fog may perhaps, along with that of my brother shipmasters, tend to elucidate this question.

I have always in a fog found that I could not depend upon my course, having always run more to the north of my course than should be. On many occasions I have had nautical gentlemen as passengers who have observed that I was allowing for the fog, and upon entering into conversation upon this subject I have found that they were nearly all of opinion as I am myself, that the compass is certainly affected in some manner by the fog. —Yours, &c., J. W. H.

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#### ON INVESTING MONEY FOR OBTAINING COMMAND.

*To the Editor of the "British Merchant Service Journal."*

DEAR SIR,—Can you or any of your readers advise as to the best and safest course one should adopt when investing money in a steamer for the purpose of getting a command? Of course I know the almost universal cry would be, "*don't*" and one is constantly told a man is a fool to do it, but really and truly it is becoming in too many cases now-a-days an impossibility to get a command without it, and the *real* question is, how to do it safely and to get your money's worth? The cases are so sadly numerous where men, for fear, perhaps, of offending the owner, fail to protect themselves and to get that guarantee to which every man is entitled when investing money for a specific purpose, and thereby too frequently losing their hard-earned and much-needed savings.

I feel sure that the profession at large would be greatly indebted to anyone who would suggest in your Journal a form of letter or guarantee that a man might fairly ask for, and expect to receive without demur, from any respectable owner, and the refusal of which he might justly look upon as strong evidence of want of *bonâ fides* in the transaction.

I am, dear Sir, yours faithfully, A. B.

## THE NAVAL PRESS AND SHIPMASTERS' SOCIETIES.

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THE press for many years past having bestowed little or no attention upon matters concerning the welfare of the Mercantile Marine or affecting the interests of the masters and officers, we were prompted to undertake the publication of these pages in order to afford nautical men an opportunity for the interchange of opinions relating to the Service, and in this manner to engage the attention of the public, as it was apparent that the press either could not or cared not to afford space for such an object.

This being the *raison d'être* of our publication, it is a pleasure to find that our efforts on behalf of the Service have not been in vain, for at length the naval press has realized the importance of the Merchant Navy and is giving some consideration to questions closely connected with Courts of Inquiry.

The opinions expressed in articles lately brought before our notice, though perhaps not quite in accordance with the views held by most of our readers, are to be welcomed, for it is satisfactory after so much apathy to see questions concerning the Merchant Service taken up from some point of view.

Our contemporary, *The United Service Gazette*, has recently published an article\* under the title of "Naval Assessors," which no doubt sets forth the sentiments entertained by those gentlemen.

In many instances indeed, it may be said in all passages relating either to the proceedings of Courts of Inquiry, the competency of the legal functionaries to put nautical questions to witnesses, or the selection of assessors, the views of

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\* September 11th and 18th.



our contemporary are identical with our own, and are expressed in similar language to that which we have employed when dealing with the subject. It is asserted that the cases selected for investigation are often of a most trivial nature, and that there seems to be an absence of a system upon which these inquiries are ordered. Reform is considered to be necessary in the Courts and certain recommendations in this direction are made.

It is not our intention to enter into a controversy upon the merits or special qualifications of assessors selected either from the Royal Navy or Mercantile Marine, but to confine ourselves to a brief consideration of several remarks in the article referred to, which should not pass unnoticed.

It is asserted that the "searching questions" put by officers of the Royal Navy who sit as assessors, brought about fuller investigations into casualties. How this assertion can be reconciled with what follows, is not easy of comprehension, the contradiction being most complete. Among the reforms suggested to re-organize Courts of Inquiry will be found the following:—

"Assessors should be enabled to put any questions they may wish, and not as now through the presiding magistrate."  
 "Oral judgments should not be given. The judgment should be that of the Court, written and signed before being made public, as at present assessors find themselves committed to a judgment which practically they have had little to do with." This being so, we may fairly enquire how and when are the "searching questions" put? From our own observations we have rarely noticed much consideration shown by the presiding legal gentlemen for the questions submitted to them on slips of paper by either of the nautical advisers.

The various Shipmasters' Associations are made the subject of very severe language. They are charged with being centres of agitation against all law and are taunted with being desirous to induce the Government to carry out



the recommendations of the Royal Commissioners on unseaworthy ships, so as to place certificates of competency beyond the reach of Courts of Inquiry so-called. To the charge of being lawless associations we give a most emphatic denial. The articles of association of the various societies will prove their *bonâ fides*, and by their united endeavours to urge upon Government the justice of giving effect to the recommendations made by the Commissioners, the executive of these bodies are merely carrying out one of the objects for which the societies are established, namely, "To watch over and represent the interests of the members on any proposed alteration of the law or further enactment, or upon the making or sanctioning of any rules or bye-laws in pursuance of any statute."

The Commissioners having declared that Courts of Inquiry are not in conformity with constitutional procedure, and further having stated that certificates should never be suspended, is it strange that master mariners and officers should desire to receive the benefit of a carefully-drafted report, which proves to be entirely in their favour.

If it seems strange that they should seek to obtain their rights, we think a careful perusal of the voluminous evidence and emphatic report published by the Royal Commissioners would speedily convince our contemporary that the Shipmasters' Societies are pursuing a perfectly legitimate course, and that moreover they are strengthened by the fact that one of the signatures to the Royal Commissioners' Report was that of Mr. H. C. Rothery.

A desire is expressed that there should be a closer alliance between the Royal Navy and the Mercantile Marine. No one would rejoice more than ourselves to see a better understanding evinced and more cordiality existing between the Services, but this we fear will not be effected so long as either party blames the other for being the great obstruction to such a desideratum.

Looking at this vexed point with an impartial eye, we feel, and we are sure all will acknowledge the justness of our remarks, that there are errors on both sides, and that several practical hints might be taken from one of Miss Austin's admirable novels, "Pride and Prejudice."

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## SUB-MARINE EXPLORATION.

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A BRIEF *resumé* of the various methods of carrying out Sub-Marine Exploration and such work as generally falls to the lot of the diver, may possibly not be unacceptable to the readers of this Journal, but owing to the limited space at disposal for this purpose I shall only give on this occasion the briefest possible description of the course of discovery, dealing not with diving bells so much as with the fact of a man being able to live under water by himself, not in combination with others, but in an apparatus connected with his own body.

We go back to the year 1538 to get the first glimpse of this process.

The Hon. Robert Boyle gives us a very singular narrative in one of his philosophical works.

He says that Cornelius Van Drebbel, a Dutch physician, a man of considerable mark, who has the credit of having constructed the first thermometer, made, in the reign of James I., a sub-marine boat, in which a man could be submerged, and that actually the boat could be rowed by men that were inside it, beneath the water.

The air, it is said, was kept pure, or re-supplied by a fluid, carried by the men in the boat, which gave off something equivalent to the air, so that the men got fresh air from a liquid. The statement seems quite incredible because in that



day we cannot conceive any such thing as a fluid which would yield oxygen gas. In this day we have a fluid which is very rich in oxygen gas, the peroxide of hydrogen, and when that is put into contact with substances which will set it free, we get oxygen in abundance. But this fluid was not discovered until 1818, when it was first made by the illustrious Thénard, the French chemist. However, a fluid of this kind would precisely answer the purpose described by Boyle. An apparatus might be made in which the oxygen could be supplied in that way, but it would be very expensive.

The peroxide is now used for a very different purpose; it is the fluid with which ladies stain their hair to a golden hue—the “Aureoline Dye.”

In the year 1678 we get a great improvement in the method of diving, from the illustrious philosopher and astronomer Halley. Halley re-invented the diving bell, but he went beyond that; he sent men with helmets on their heads, out of the bell with tubes connected with the bell, so that they could breathe from the interior of the bell at a considerable distance from it.

In 1776 Charles Spalding improved greatly on this method. He made a helmet and cuirass, and enabled men to descend into the water with great facility.

In 1748 Smeaton began to use a pump much after the manner of the present plans, which allowed the air to pass into the bell through a tube.

In 1798 Klingert invented tin-plate armour, in addition to a leather jacket, and with that two pipes attached, one for inhaling and the other for letting out the air.

This continued until 1829, when Mr. Siebe, whose firm is still continued under the name of Siebe and Gorman, invented a diving dress, which consisted of a helmet and jacket which came half way down the body, and of trousers which passed up under the arms. The helmet was supplied with air from above by a pump. When the man was in the water



the exhaled air passed underneath the jacket and so into the water.

That was called the open diving dress. It was very popular and was not displaced even by another invention of Mr. Siebe himself without a deal of opposition by the old divers. Mr. Siebe afterwards invented what is called the close diving dress.

We have no great advance or change in the method of diving dress until 1854, and then a Frenchman named St. Simon Sicard made a dress much after the manner of an ordinary diving dress, but he carried down with that, oxygen compressed under six atmospheres. He also carried an apparatus by which he could remove the carbonic acid, so that he lived in an atmosphere of oxygen mixed with the return air of oxygen and nitrogen from his lungs. He was not, I have been told, so successful in removing the water from the breath, and therefore the apparatus was imperfect. Those who used it were subjected to risk, and for that reason, possibly, it was never brought into practice after the time of which I write, and then only at various exhibitions.

I am not aware that any deep diving was ever done in Sicard's dress. We now come to the latest invention of the kind, one, indeed, as may be said of yesterday only, that of Mr. Fleuss, a young officer, late in the service of the P. and O. Company, of German parents, but himself born in England. He states that he worked out his experiments, step by step, without regard to previous inventions, and inasmuch as he has succeeded where Sicard failed, viz., in getting rid of the moisture of the breath, we have no doubt in his apparatus, a near approach to perfection. To say the least, we must allow that his dress is extremely complete.

In order to understand it thoroughly, and to appreciate the principles which govern the use of it, and which constitute its merit, it will be necessary to describe it somewhat amply and in detail.

In the first place, then, Mr. Fleuss has a helmet, and within that a chamber which is strong enough to bear a pressure of 16 atmospheres.

The space is one-fourth of a cubic foot in size, and under pressure he can introduce sufficient oxygen in the compressed form to last for breathing purposes for from four to five hours. This is not usually done by those few who have hitherto used this dress, at least not in ordinary experiments, but only sufficient is introduced to last for from two to three hours. Before putting on the helmet the diver puts on a cuirass, in which there are two metal, or vulcanite vessels, each divided longitudinally by a partition, into two chambers, one of these vessels being in front, and the other behind.

These chambers are filled with caustic soda, broken into pieces of a convenient size, and this caustic soda being an exceedingly strong alkali is, of course, an equally strong antacid, and has the property of fixing the carbonic acid of the breath very rapidly. After the cuirass is put on, and the dress which covers it, so as to shut off all water, the diver puts on a very ingeniously constructed ori-nasal mask, which adapts itself extremely well.

It is a mouthpiece, partly—not altogether—original. In the early days of Anæsthesia, when we were beginning to use Ether and Chloroform, the late Dr. Sibson invented an ori-nasal mask for that purpose, which is nearly the same, and fits also very correctly. The mask in question is made of leather. It fits very tightly over the face, and has two valves, one on each side of the nostrils. These valves open inwards, so that in inspiration the diver draws the breath inwards, and, in expiration, breathes through an artificial windpipe attached to or being part of the mask. The mask is placed over the mouth and nose, and fastened firmly by a band, which goes to the back of the neck. The exit tube passes into one of the front chambers, containing soda, within the cuirass. When the diver exhales, his breath passes down



this tube into the first chamber and over the soda, then through another tube within the cuirass, and through the second chamber again over soda, finally escaping at an opening near the shoulder into the helmet. In the process of breathing through these tubes all the carbonic acid of the breath—all that is poisonous—has been removed, reserving something else. In breathing, we take in a certain quantity of oxygen with each breath, but we do not use the whole of it. There is a measure of *reserve* oxygen left, enough to sustain life for two or three minutes, if from any accident we are removed from the air. There is RETURN oxygen—oxygen which has not been used in the lungs, and which goes back into the helmet and is used again for breathing. In addition to that there is the nitrogen, which dilutes the oxygen in the ordinary atmosphere to the extent of four parts of nitrogen to one of oxygen, and that nitrogen, a negative substance diluting the oxygen, all passes through these chambers and comes into the helmet. There is a tap in the latter by which the diver can, when the helmet is adjusted on to the cuirass, admit oxygen freely, so that it commingles with the nitrogen and the return oxygen. In this way the wearer is always making a new atmosphere for himself, and that is the principle of the invention. One other improvement which is a very important addition to previous attempts of a similar kind—such as Sicard's, above alluded to—the inventor has made. He has a little space at the lower part of the soda chambers to receive the water that passes by the breath and is condensed. There is a perforated or false bottom below, and a trough into which the water falls, and so the diver is not impeded in the act of expiration by the presence of water.

There can be little doubt that this notable improvement in the appliances for descending beneath the level of the sea, obviating as it does the necessity for the expensive gear, such as air pumps, &c., &c., and the attendant labour, and doing:



away with the chance of the fouling, compressing, or severing of the air tubes, inasmuch as there are none to be injured, must come to the front for nearly every purpose, whilst for comfort to the wearer, it is immeasurably superior to the old dress—the pressure on the blood vessels being so very much reduced, and breathing being as easy at any depth which exterior pressure will allow the wearer to descend to, as at only a few feet below the surface.

J. M. B. B.

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## DANGERS OF NAVIGATION.

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THE *Narissa* steamship arrived at Falmouth on the 3rd November, and reported that she came into contact with a derelict vessel in the Atlantic, by which her bows were stove in, and her fore compartment filled with water to a depth of nineteen feet.

Had it not been for the strength of the collision bulkhead there is but little doubt that the *Narissa* would have added her name to the already unhappily too long list of missing vessels. No greater danger exists at sea for the mariner than the presence of a derelict vessel, for the keenest look-out even on a fine night would be unable to make out an abandoned hull in time to avoid a catastrophe, especially when it is borne in mind that these derelicts are rarely met with any canvas on them, and as a rule, with one or more masts gone—where then is the chance for the safety of a vessel whose course would bring her into contact with such a danger of this description. Sailors know well even on the finest nights the great difficulty there is in discerning any object on the water. Indeed in the case of an abandoned hull, as said before, it would be almost impossible to do so in time to avoid collision.

During the month ending the 9th November, upwards of twenty derelicts are reported at Lloyd's, and the possibility of passing ships coming into contact with these floating dangers is dreadful to contemplate. Last winter also the list of derelicts reported was numerous, and so, unfortunately, was our list of missing ships—some of them the finest in our Mercantile Marine. Ships of the highest class, well manned and well found, spoken after they had crossed the equator, and some of them even out of the region of the N.E. Trade Wind have not been heard of, and have been no doubt lost from some unknown cause on the great Atlantic highway for traffic. For instance, H.M.S. *Atalanta*, *The Bay of Biscay*, and several others. On this highway many derelicts have been reported, and it is reasonable to suppose, amongst other causes, that if a possible collision with a derelict be taken into consideration it may account for the sad and frequent loss of so many of our fine ships and steamers.

Anything which could be recommended to remove these traps for the lives of sailors should be brought forward, and I would suggest the consideration of this matter to both the Government and to our numerous Insurance Companies. I advocate that the Admiralty should send out a small vessel to destroy any derelicts reported in the Atlantic as being in the frequented track. To the underwriters I would submit the advisability of jointly keeping one or two handy steamers to be at once despatched on the advice of a derelict being reported, and either to destroy or salvage her. A small contribution in proportion to the capital of the Insurance Companies would provide such vessels as I have described, and would save them many risks. Masters of sailing ships and steamers sometimes send boats to the derelict vessels they meet, and it would be well if, when they do so, that they should set fire to or otherwise destroy the same instead of leaving them to be a continued source of danger to mariners.

C. J.



## THE DEEP SEA.

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THE following particulars, discovered as the result of recent deep-sea explorations, are taken from a lecture delivered by Mr. H. N. Moseley, F.R.S., at the Royal Institution :—

The average depth of the ocean is, according to the latest calculations of Mr. Otto Krummell, about 1,877 fathoms, or somewhat over two miles, very nearly the distance from the Royal Institution to the top of Primrose Hill. If we try and project Primrose Hill directly under our feet, keeping the distance the same, we shall form a conception of the mean depth of the sea. The greatest depth known to exist was discovered by the United States ship *Tuscarora* near the Kurile Islands, in the North-east Pacific. It is 4,655 fathoms or about five miles and a quarter. The highest mountain existing is of about the same height as the deepest sea is deep. Mount Everest is 4,833 fathoms in height. So insignificant, however, is the total volume of the land raised above sea level in proportion to the vast cavity occupied by the sea that, were this cavity emptied of its water, the whole of the land now above sea level could be shovelled into it twenty-two and a half times over before it would be filled up to the present sea level. Nevertheless the depth of the oceans, great as it is, is as nothing in comparison with the vastness of their extent of surface. As Mr. Croll has said, the oceans in relation to their superficial area are as shallow as a sheet of water 100 yards in diameter and only 1 in. in depth. The sides of the ocean basins are not at all steep. They are mostly so little inclined that an ordinary locomotive engine could run up them in a straight line with ease. Their inclination is usually not more than three or four degrees or less. Around some oceanic islands the slope is greater. The steepest slope known is, as Captain Tizard informs me at



Bermuda, where there is an inclination of nearly twenty degrees from the edge of the reef to 2,000 fathoms. There are no such things as mountains and valleys on the deep sea bottom. Animals cannot slip down against their will into the depths, but must move deliberately into them, and travel a long journey to reach them. The pressure exerted by the superincumbent water at great depths is so great as to be almost beyond conception. It amounts roughly to a ton on the square inch for every 1000 fathoms of depth—about 166 times as much as the pressure to which we are subjected at the present moment. At the greatest depths the pressure is about four tons and a half. Vast though this pressure is, it is, however, only about one-eighth of that which Professor Abel and Captain Noble have measured, as produced in their experiments on gunpowder. The deep-sea animals, being completely permeated by fluids, are probably no more conscious of pressure acting upon them than we, and, so long as they move slowly from one depth to another, are most likely unaffected by the consequent changes of pressure. With regard to the temperature of the deep-sea water, the conditions which would affect animals are comparatively simple. Nearly all over the ocean the temperature at 500 fathoms is as low as 40° F., and this is the case even immediately under the equator in the Atlantic and Pacific oceans. Below 2,000 fathoms the temperature is never more than a few degrees above freezing point, excepting in the peculiar cases of land-lock seas, such as the Sulu Sea.

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## LIVERPOOL HOME FOR AGED MARINERS.

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THE foundation-stone of this building was laid last month by Mrs. William Cliff, the wife of a Liverpool merchant and shipowner, who has himself contributed £8,500 towards the edifice—an amount which is practically sufficient to cover the cost of erection. It is anticipated that other donations, already received and which will flow in, will meet the purchase of the land, which embraces about five acres. The site is a healthy and commanding one on the Cheshire shore of the Mersey, and the building will be easily discernable by all voyagers to and from Liverpool. It will have accommodation for about 50 inmates, and the scheme also embraces the erection of a number of cottages, where old sailors may live rent free with their families or relatives.

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## THE SHIPWRECKED MARINERS' SOCIETY.

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WE are informed that at the Board meeting of the Shipwrecked Mariners' Society, it has been unanimously resolved to present the framed testimonial of the Society, recording also the special exertions of his officers and crew, to Captain J. T. Bragg, R.N.R., commander of the s.s. *Antenor*, for his services in the cause of humanity in saving upwards of 900 lives from the abandoned s.s. *Jeddah*.

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THE USE OF ADMIRALTY CHARTS IN THE  
PRACTICE OF COMMON AND PROPER PILOTING.

*(Read before the Members of the Shipmasters' Society,  
25th November, 1880.)*

CAPTAIN H. B. BENSON, IN THE CHAIR.

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BEING well aware that my audience mainly consists of sailors acquainted with the use of charts, I must open my paper with an apology for its title, and trust my brethren of the Mercantile Marine will consider that part of it which treats of the use of the Admiralty Charts in the Practice of Common and Proper Piloting in the light of a friendly chat, and interchange of ideas over a familiar subject.

I propose to begin by giving, first, what I will call the natural history of the Admiralty Charts; secondly, by calling your attention to the Admiralty Pilots, or Sailing Directions; and concluding with a few remarks on Common and Proper Piloting and on the instruments used in the practice thereof.

As my paper treats chiefly on what may be called the most important part of the apparatus by which our enormous commerce is carried on during peace, and defended during



war, viz., the Admiralty Charts, I trust it will be found interesting to the older, and both interesting and instructive to the younger members of this excellent Society of British Shipmasters.

From the earliest times the sailor and pilot has turned his attention to that great aid to navigation, viz., a Chart.

Columbus, the greatest of pilots, spent several years in the actual manufacture of charts, and it was "from constantly comparing maps and charts and noting the progress and direction of discovery that he was led to perceive how much of the world remained unknown, and to meditate on the means of exploring it."

I have here the first so-called Mercator's Chart of the World, published in 1600, by Edward Wright, and now republished by the Hakluyt Society, to illustrate the voyages and works of John Davis, the navigator, whose adventurous career claims the admiration of those who read his useful life; but "Master John Davis" was not only a captain; he was also one of the "skilfull pylots of our nation," *i.e.*, a sailor who could conduct a vessel in safety from port to port under the ever varying changes of wind, sea, and weather. He is spoken of as a most learned mariner, and a good mathematician, and his learning had the advantage of having been confirmed by experience. But such a man as Davis was not content with the power acquired by his own knowledge; he longed to share that knowledge with his fellow seaman, to make others as famous as himself, to the honour and benefit of the commonwealth. It was in this spirit that he wrote "The Seaman's Secrets," now printed at the end of his voyages, and well worthy of the perusal of any sailor interested in navigation.

This valuable addition to the sailor's library was compiled by Captain Albert Markham, R.N., assisted, as he tells us in his dedication, by his cousin, Mr. Clements Markham,

the well-known Secretary of the Royal Geographical Society, to whom the public is indebted for bringing to light this first legitimate attempt to lay down a chart upon the true projection; for though Mercator in 1569 set forth a universal chart similarly constructed, it does not appear on what principles he proceeded. The chart before us is by our own countryman, Edward Wright, who carried out Davis's idea of a "paradoxall chart, being an instrumēt portable, of easie stowage and small practise, perfourming the practices of Nauigation as largely and as beneficially as the globe in all respects" (see page 315). Such is the character of the charts at present in use; and Wright was the first to demonstrate the true principle upon which such charts were to be laid down, by means of the now well-known tables of meridional parts.

There is an additional interest in this first of charts, from there being but little doubt that it is the map referred to by Shakspeare in *Twelfth Night*, act iii., scene 2, in which Maria, speaking of Malvolio, her mistress's official, says:—

"He does smile his face into more lines than are in the new map, with the augmentation of the Indies."

Although during the last century, English sailors, as Cook, Vancouver, Flinders, and others, added considerably to our knowledge of the coasts of the world, it was not until the year 1795, under Earl Spencer, that the Hydrographical Department of the Admiralty was established by Order in Council. It consisted of the hydrographer, one assistant, and a draughtsman. The first hydrographer was Mr. Alexander Dalrymple, a gentleman in the East India Company's Civil Service. The orders to this gentleman were "to take charge and custody of such plans and charts as then were or should hereafter be deposited in the Admiralty, and to select and compile such information as might appear to be requisite for the purpose of improving navigation."

From this small beginning came the important department

that may now be fairly said to be the main source of the hydrographical information of the civilized world.

The story of this essential branch of the Royal Navy, a service not only useful in peace but terrible in war, affords a singular example of the difficulties which attend the construction and maintenance of any thoroughly good institution, and the personal risk that has to be encountered by men who are thoroughly earnest in advocating the true interests of their kind. "Inch by inch," we are told by Sir George Richards, did the surveying service "fight its way into life," until under the bold and skilful rule of Sir Francis Beaufort, between 1829 and 1855, it achieved the success prepared for it by the struggles and death of Dalrymple, and the earnest efforts of Hurd, Michael Walker, and Parry.

The department advanced slowly but surely, until in the year 1849, its staff consisted of no fewer than seventeen captains and twelve commanders, all qualified to command surveying vessels, with a corresponding number of junior officers in training. Twelve men of war were also at that date employed as surveying vessels in different parts of the globe. It should here be remarked that before Dalrymple assumed his position as Admiralty Hydrographer, the work of marine surveys had been commenced in India. There was a local hydrographical surveyor at Calcutta in the person of Captain John Ritchie, from 1770 to 1785. His successors were Captains McCluer, Wedgborough, Blair, and Topping; and in 1810 James Horsburg (who was to India what Francis Beaufort was to England) undertook to superintend the compilation and publication of charts, the results of the Indian surveys, continuing to do so until his death in 1836. The work of the Indian surveyors of this early period was very good. Admiral Collinson, when surveying in China, had opportunities of testing several of their charts, and he bears testimony not only to their accuracy, but also to the fact that the Indian nautical surveyors were



farther advanced than those of the Royal Navy of the same period. I call your attention to these facts as it was chiefly from the labours of Sir Francis Beaufort and his captains of the Royal Navy, and James Horsburg and his captains of the Indian Navy, that the present Admiralty Charts were originally compiled. Surveyors of late years have considerably added to and improved the charts, but it is upon the energy and ability of these unequalled hydrographers, and the officers their knowledge of men gathered round them, that the success of hydrography or chart-making mainly rested.

The charts prepared by the officers and gentlemen of the Hydrographic Department, and published by order of the Lords Commissioners of the Admiralty, are over 2,650 in number. They are compiled chiefly from the labours of English Naval officers employed in the surveying service; at the same time, valuable contributions are from time to time received from officers in our Mercantile Marine. I have here some of the labours of Captain S. T. Lecky, R.N.R., in South America, and Captain J. C. Pendered, in Japan. Captain Lecky, when in the service of the Pacific Steam Navigation Company, ably assisted by officers whom he had trained to the work, furnished us with a running survey in the Strait of Magellan that would reflect credit on any Admiralty Surveyor. It extended over 100 miles, from Cape Cross Tide to Cape Pillar. I may here mention that Captain Lecky acquired his knowledge of nautical surveying when in the service of the Honorable East India Company. In addition to these works of our own countrymen, the labours of other nations have been collected and utilized. Charts of the coasts of Europe have naturally been taken from the surveys made by the various States, and in the charts of the other quarters of the globe we have received considerable assistance from the labours of French, Spanish, Dutch, and American surveyors.

I have selected a few sheets to give a fair general idea of the different classes of charts issued by the Admiralty. They may be described as follows.—The ocean chart ; the general chart of any particular country or coast ; the coast chart ; the plan of a harbour ; and the physical chart. The ocean charts are necessarily drawn upon small scales of about half-an-inch to a degree of longitude, as the eastern part of the North Atlantic. The general charts increase the scale to  $\cdot 15$  inches to the nautic mile, as the English Channel. Coast sheets are published on  $\cdot 5$  inches to a nautic mile, as this chart of Dodman Point to Portland : while the plan of Plymouth Sound is drawn upon 6 inches to the nautic mile.

The ocean and general charts are all compiled and drawn in the Hydrographic Office, and as all originals, existing charts, latest surveys, and maps have to be consulted, their compilation is a painstaking work requiring considerable experience ; many matters of detail must necessarily be omitted, and the talent of the compiler is required to decide what to reject, what to insert, and also to arrange the names in such a manner that while full information is given, the clearness of the chart is not interfered with. The hydrographic draughtsmen has therefore to be well acquainted with what I may term the mercantile and nautical geography of the country he is delineating, so that he may not omit any seaport of importance, or information useful to the sailor, and no pains are spared by Mr. E. J. Powell, the Chief Draughtsman, and his assistants, in their endeavour to attain, where it is possible, mathematical exactness, and lay before the public the labours of the nautical surveyors, explorers, and amateurs, not only of England, but of the civilized world ; reducing their various styles into a comprehensive system, and thus furnishing the intelligent seaman with an intelligent guide, which common industry will soon enable him to thoroughly appreciate.

The coast sheets and plans of harbours are manufactured from MSS. charts forwarded to the Admiralty by their surveying officers, and also from the new charts issued by foreign Governments. In most cases these charts have to be reduced from the scales on which they were originally drawn, to others suited to smaller sheets, on which, for the convenience of use and stowage on board ships, they are obliged to be published. The greatest care is bestowed upon these plans in their reproduction in order to give due prominence to all dangers, to throw up natural features, or buildings that become sea-marks from their conspicuousness. Every possible information relating to lights, buoys, tides, currents, nature of the bottom, anchorage, &c., must also be inserted; for this purpose, to prevent the information thus given from hiding those natural features which should be drawn so as to catch the first glance of the sailor's eye, certain abbreviations have been necessarily adopted which are to some extent hieroglyphics to the uninitiated, but the sailor is earnestly requested to make himself familiar with the small sheet of "Signs and abbreviations adopted in the charts published by the Admiralty." This practice of issuing a sheet of signs and abbreviations has also been followed by foreign Governments.

As a large portion of the world is either still unsurveyed, or not surveyed in so full a manner as the requirements of this age of steamships demands, charts of unsurveyed localities are generally drawn in a light and unfinished manner, so that the educated sailor may at once see that less trust is to be reposed upon them. It is necessary then, in using the Admiralty Charts, to observe the date at which the coast the chart exhibits was surveyed, to read the title carefully, so as to ascertain what manner of survey it was made from, as it may be from only partial running or sketch surveys; to examine with care the style in which the coast line is drawn, the amount of soundings, and any notations that may be



made. By these means it will be seen whether the coast in question has ever been properly surveyed, or the age of the survey, and, therefrom, how much reliance should be placed upon the chart. When passing any of these unsurveyed or partially surveyed localities the intelligent sailor should, if time and circumstances permit, endeavour to assist his brethren of the sea, by obtaining and transmitting to the Admiralty as much information as possible of those unknown shores.

When the charts are engraved (the great aim of their manufacturers being correctness) they are examined by the Naval Assistants to the Hydrographer. One officer answers for all lights and buoys being correctly marked; another that all possible information is given with regard to the important subject of Tides; another compares the chart with the Admiralty Pilots or books of Sailing Directions, to see that the chart or illustrations tell the same story as the Pilots or letterpress; another insures that the magnetic variation is correctly given. The chart is then returned to the Superintendent, who, after due consideration of any corrections or suggestions that may have been made, lays it before the Hydrographer, with the initials of the examining officers attached. The work having undergone a final inspection by the Hydrographer and the Superintendent is then allowed to be published. From this it will be seen that every precaution is taken to insure the accuracy of the Admiralty Chart at its birth.

The charts thus given to the world are not by any means done with on publication, they have next to be kept up to date. Every chart issued is as it were a child born to their Lordships, that requires considerable care to insure its doing good instead of evil, in the eventful career that may be before it. The Hydrographic Office has therefore to be thoroughly conversant with all the most recent publications of Foreign Governments, that where necessary they may be made immediately available for making corrections and

additions to the charts. Records are kept of all reported dangers and new discoveries with their authorities. These are minutely investigated in order to ensure on the one hand that no useful information be omitted, and on the other that the charts shall not be encumbered with dangers the existence of which there are good grounds for doubting. Considerable discretion should therefore be used by sailors in reporting new rocks or dangers, as their existence and position should be first well determined; for when once doubtful dangers are placed upon the chart, there is great difficulty in removing them, they become a source of considerable anxiety, increasing the difficulties of navigation, and harassing alike the mind of the chart-maker, and chart user.\*

Another duty is that of keeping the charts corrected for the latest changes of lights and buoys. As there are in round numbers 4,000 lights, and 10,000 buoys inserted upon the Admiralty Charts, this is no small task, as, in many cases, through the change of a single light or buoy, no less than five charts will require correction.

These corrections, although small, must be made by experienced hands, for if such *important simplicities* are neglected, or inserted carelessly, and the chart incorrect in these essentials, no finish or cunning engraving can save its credit; it is beauty without discretion, a danger instead of a safeguard to the sailor who uses it. "Any draughtsman," said the late Sir Edward Belcher, "can make a neat, showy plan, but it is useless if it cannot stand the seamen's test." As a very slight error in the position, colour, and character of a light or buoy, or in the insertion of a simple dot, cross or figure may lead to the gravest disasters, every mark upon an Admiralty Chart

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\* The latest charts of the central Pacific have been cleared of upwards of half a hundred of these doubtful dangers. This was a delicate and responsible duty requiring considerable experience of the character of the reports connected with these *vigias*.

must be delineated by the Hydrographic Draughtsmen with the greatest care.

To insure publicity being given to these changes in the charts, notices of them are also issued by the Admiralty under two heads; first, as "Notices to Mariners;" and, secondly, as "Hydrographic Notices." The former contain the more important items, such as the establishment of new lights and buoys or the changes in old ones, and the discoveries of dangerous shoals. The latter are intended as additions to the several editions of the Admiralty Pilots. The number of these issued up to the end of October, in the current year, is 197 "Notices to Mariners," and 31 "Hydrographic Notices."

These facts will show the necessity of the Admiralty Charts being closely watched by sailors using them, to insure their being supplied with charts corrected up to date. The dates of these corrections are noted at the foot of the charts, those of large corrections or additions, for which the charts have been cancelled, being written in full against the imprint; while the dates of smaller corrections, such as changes in lights or buoys, are noted in Roman numerals in the left-hand corner.

In order to enable the sailor readily to select the series of charts he may require for the prosecution of any particular voyage, Index Charts of all parts of the world, showing the method upon which the different coasts have been charted, and all ports of which plans exist, are also published by the Admiralty.

We now come to the next class of Admiralty Chart known as the "Physical," or, as Maury so well termed them, the "Pilot Charts." These are attempts to carry out the work so well begun by Maury, of the United States, and Fitzroy, of our own Navy, and to give the sailor in all parts of the world a general idea of the winds at different times of the year, the tracks of the tropical storms, and the months



wherein they occur; the winds he may experience on nearing the coast, the times of the rainy seasons, and localities in which ice may be fallen in with. Small synoptical charts, at the foot of the larger ones, show the isothermal and isobaric lines for each season of the year.

Another Chart of the World shows the direction and force of the stream and drift currents of the ocean, the smaller charts on the top giving the mean temperature of the surface of the sea at the opposite seasons of the year; while the large quantities of drift ice and enormous bergs, or, rather ice islands, that drift northward from the regions of the Southern Pole made the compilation of an "Ice Chart" of the Antarctic Ocean necessary.

The preparation of these charts was a work of some years. The whole of the information collected by Maury and Fitzroy; Mr. Scott and Captain Toynbee, of the Meteorological Department of the Board of Trade; the Netherlands Government; Dove and Neumayer, of Germany; Admiral Chabannes, of France; Lieutenant Capello, of Portugal; Meldrum, of Mauritius; Piddington, Fergusson, and Taylor, of our late Indian Navy, together with what could be taken from the Remark Books of the Royal Navy and documents in the Admiralty, all had to be discussed, the best data selected, and put together in the most simple and graphic form for the guidance of the sailor. These charts are an attempt to bring before him the experience of many hundreds, in some cases thousands, of ships, and to place him in a better position to form a correct judgment of the movements of the currents of wind and water that may be met with on the passage he is making, than if he had spent a lifetime in sailing over the same track. The Pilot Charts will be found useful to captains, ordered to make a passage within a certain time, as a guide to the track they should follow, and as to when they should use the coal at their disposal to the most advantageous purpose. In the com-

pilation of these charts all theories were piously excluded; they were drawn from collections of facts, contributed, as far as it was possible to judge, by trustworthy, practical, and experienced sailors.

Still, this meteorology for sailors must be considered as only in its infancy. The labours of Mr. Scott and Captain Toynbee will, I trust, lead to larger charts being made, and the information being given for each month, instead of each quarter of the year. The sheets for January, February, and March, as well as those for July, August, and September, give a reliable idea of the winds that may be encountered in those seasons: but, in remaining charts, especially in the Indian Ocean, the observations of May and June are spoilt by the insertion of those of April, just as the regularity of the monsoon in November and December is interfered with by the addition of calms and squalls inseparable from October.

We now come to the books. The Admiralty publish annually lists of the lighthouses and light-vessels now existing in the world, noting the changes that are constantly taking place. Catalogues of charts and nautical works are periodically issued. About the 1st December the Tide Tables are published. The tides are calculated daily for twenty-four of the principal ports of the United Kingdom, with constants for the minor ports, and also the times of high water, with the amount of the rise and fall for two thousand of the principal ports of the globe. I will here call the attention of captains of vessels, bound to the East Indies, to the new Tide Tables, published for 1881, by the Secretary of State for India, for some of the principal Indian ports; the waters in these seas being considerably affected by the diurnal inequality. This feature in tidal phenomena, being particularly small in British waters, has not received the attention it merits from the English sailor. In the Indian Seas, and, indeed, in most other parts of the globe,

this diurnal inequality is a regular change, considerable in amount, and almost universal in prevalence. It affects the time of high water as much as two hours, that of low of about forty minutes; at the same time a variation of twelve inches may be observed in the height of high water, and of thirty-six inches in that of low water. Such effects are far too great to be neglected, either in the prediction of tides or the reduction of soundings. These Tables are calculated by Captain A. N. Baird, R.E., of the Indian Survey, and Mr. E. Roberts, of the Nautical Almanac Office.\*

The time of three of the Naval Assistants is devoted to the compilation and revision of the Admiralty Pilots or books of Nautical Directions, for which purpose it is necessary they should examine all the sailing directions which are written, and original charts that are constructed by our surveying officers in the course of their surveys, and likewise every Remark Book which is received into the office from Her Majesty's ships, as well as a great variety of other works and documents, Foreign and English. The labour of compiling these works is naturally of a most dry and uninteresting nature; all fine writing, glowing descriptions, and roundabout phrases are of necessity avoided, and nothing but hard salt facts, as practical as the pilots for whom this species of literature is intended, are allowed to be written. With painstaking patience the compilers have not only to do their best to attain infallibility, but also to write the directions in so terse and lucid a manner, that while common-place ability cannot fail to comprehend them, cunning intelligence is unable to read them in two ways, men having been known to use both book and chart only *after* their vessel has been lost, with the

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\* Tide Tables for the following Indian Ports are now published:—Aden, Kurrachee, Okha Point and Beyt Harbour (Mouth of the Gulf of Cutch), Bombay, Karwar, Beypore (near Calicut), Paumben Pass (Island of Ramesweram), and Vizagapatam.



hope of finding some flaw therein to be used in the defence. The phrase that "easy reading is hard writing" describes forcibly the onerous task of compiling the "Admiralty Pilots."

In this age of iron ships I must call attention to a small tract published by the Admiralty, entitled, "Practical Rules for Ascertaining and Applying the Deviations of the Compass, 1879." A study of this little work will, I am sure, repay the time bestowed upon it. The standard compass has been termed the heart of a ship, she will hardly be able to exist without it, and a thorough knowledge of this member must be acquired by every sailor who would also be a Pilot. John Davis, the navigator, in his "Seamen's Secrets," published in 1600, calls the sailor's attention to a "carefull regarde vnto his stereag with a very diligent examination of the truth of his compasse, that it be without variation or other impediments." This "carefull regarde" might also be advantageously followed in these days of iron. Deviation is to us what variation was to the Elizabethian navigator, *i.e.*, a varying quantity. John Davis also suggested checking the compass by bearing at noon, or by stars known to be on meridian. Taking care that the meridian altitude be not too great for the purpose, this idea of 1600 may be useful to the modern sailor in 1880.

The sun's true bearing, or azimuth tables, between the parallels of  $30^{\circ}$  and  $60^{\circ}$  by Staff Commander Burdwood, as also those by Captain Davis, between the parallels of  $30^{\circ}$  and the equator, should be in the possession of every sailor interested in the "carefull regarde" of his "compasse." The pole star, too, may frequently be turned to good account as a corrector.\* A true compass bearing may frequently be obtained by observing when two lighthouses are in line, or

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\* As was mentioned by Captain Louttit in his Paper on the "Improved Mariner's Compass and Stellar Azimuth Compass," page 470 of this Journal.

better still, when a lighthouse or some well-known object on the coast comes upon the same line of bearing with a distant peak or landmark, similarly well known and marked, behind it.

Having described the manufacture of the Admiralty Charts and books I must come to the use of them. To use an expression of Mark Twain's, "I should like to let out" this part of my paper, for I feel that I am run out to the clinch in the matter of information, and shall only be telling most of my audience what they already know. In a little society I belong to at the other end of the town where we also read papers, it is the fashion (and as a fashion it has answered for years to promote the harmony of the meeting) to get out of any mess the reader of a paper may be in, by throwing the blame on the Secretary. As the Benjamin of this Society, I humbly submit that the same procedure be followed here, and as I have found Mr. Cramer extremely good-natured, I have no doubt he will allow me to put the phrase "on the use of Admiralty Charts in the practice of Common and Proper Piloting," upon his shoulders. I will then do my best to help him out of his trouble, and venture to call special attention to that most important duty in a sailor's profession, viz., the Piloting of the vessels committed to his charge.

The art of Piloting was divided by the old navigators into two parts: Common and Proper.

COMMON PILOTING is that knowledge which teaches how to coast along shore, or to sail or steam within sight of land.

PROPER PILOTING is that knowledge which teaches how to sail or steam across the ocean out of sight of land, and to navigate by celestial instead of by terrestrial bodies.

To insure success in Common Piloting, a thorough knowledge is required of the coast or locality on which the ship may be sailing, but as it frequently happens in the absence of a local pilot, that the sailor has to depend upon himself,

the methods and instruments by means of which such knowledge can be acquired, should be made the serious study of the navigator. Fortunately, such methods and instruments are easy of access, and it only remains for the sailor by constant practice to acquire facility in understanding the former and handling the latter, remembering that the constant exercise of such duties in the opportunities afforded by fair weather, will enable him to conduct his vessel with greater safety in foul weather.

A competent and practical knowledge of what can be done with anchor and compass; log-line and lead-line; sextant and chronometer; chart and protractor; parallel rulers and dividers; is the secret of success in a profession whose members live by utilizing the forces of wind and water.

MARINER'S COMPASS.—Attention is first called to the Mariner's Compass, which instrument in these days of iron shipbuilding should be well understood, its peculiar deviation carefully ascertained, and the changes in that deviation constantly watched.

THE ANCHOR AND CABLE, also important implements in Common Piloting, should be always ready for use, and not be lost sight of as valuable auxiliaries until the vessel has fairly left the land.

THE CHART should not only be always at hand, but also be thoroughly understood; and as considerable information is to be obtained from every mark delineated thereon, the necessary abbreviations should be so well comprehended, that they may be read at sight.—The SEXTANT should be always at hand as a means to obtain the ship's position, and the protractor, dividers, and parallel rulers should be found in the neighbourhood of the chart.

In fair weather the coast in sight should be watched with the chart, so that the sailor may become accustomed to recognise the land as drawn upon the chart, the various points being observed as the vessel moves along, and the



changes in their appearances as seen from different aspects carefully noted. Every light and buoy passed should be observed as to its position, character, and colour, so that they may be known again when encountered under less favourable circumstances.

'Tis thus a chart should be used and studied, every prominent peak, point, building, light, or buoy seen, should be hunted for on the chart, until it is fully recognized. For this reason bearings and angles should be frequently taken, and the vessel's position fixed thereby. This brings us to the sailor and pilot's great tool, the *SEXTANT*! which will be found as useful to him in taking horizontal angles in the practice of Common Piloting, as it is in observing vertical angles in the shape of altitudes of the sun or stars in the practice of Proper Piloting. The sailor and pilot should, therefore, lose no opportunity of making himself thoroughly conversant with this now common but nevertheless invaluable instrument, understanding all its adjustments, peculiarities, causes of error, use of "the arc of excess," and the means of re-quick-silvering its reflectors. The sextant can, from its delightful portability, be frequently used when masts, sails, funnels, or important passengers, obstruct the view from the compass. An angle also is more readily and accurately measured by the sextant than by two bearings taken by the compass. Mind, in thus recommending the use of the sextant, I by no means want to cut our old friend the *MARINERS' COMPASS*. It is now, as it was in the days of John Davis, the principal instrument in navigation, representing and distinguishing the horizon, and by a "very diligent examination of the truth of his compasse" the sailor and pilot shall find it his best ally notwithstanding the seductive force of the iron carcase in which this heart of his ship is placed. I only advise the marriage of the sextant with the compass, thereby to obtain a numerous progeny of true positions. The charming properties of the circle, viz., that the angles in the same

segment are equal to one another; and that the opposite angles of any four-sided figure inscribed in a circle are together equal to two right angles; enables us, with the help of the sextant, to use the Danger angle, and also a pair of angles, in the practice of Common Piloting. Captain Holt, in the last number of your journal, has ably called attention to these facts—please read his paper. The station pointers, or in their absence tracing paper, simplifies the use of the pair of angles, and saves the chart, but I would recommend that a compass bearing be at the same time obtained and used, as it also simplifies matters, and is a necessity on poorly surveyed coasts. Two objects in line and an angle to a third is a sure fix on a well surveyed coast, but in this case, as also in using angle and bearing, take care, if possible, that the angle observed be not too small, not less than  $25^{\circ}$ . If the angle is less than  $20^{\circ}$  the ship's position obtained by such means cannot be considered satisfactory. If another angle can be got, and a third in the case of using the pair, 'twill be found as handy as a "spare" at skittles or bowls.

THE TIDES AND CURRENTS will require serious attention, and as they are always considerably affected by the prevailing weather, constant watchfulness is required to enable the sailor to handle these useful forces. The log should be regularly hove, or if the patent log is used, it should be frequently observed; attention to the log, combined with good steerage, and obtaining the vessel's position by means of angles and bearings, being the methods by which the movements of the water can be understood.

THE LEAD.—Above all, the sailor's attention is most earnestly called to that simple but important instrument, to that best of all inventions, for saving life at sea, viz.: *the Lead*; the neglect of which may be said to have been the great cause of modern disasters to shipping. The Lead, deep sea as well as hand, should never be lost sight of, and the crew (and even passengers) made familiar with the

method of "passing the line along," so as to obtain a deep sea cast with as little delay as possible. The lead should always be armed, and the soundings and nature of the bottom obtained by each cast of the lead should be compared with that shown in the supposed position of the vessel on the chart. "It should be borne in mind when approaching the land, that even under the most favourable circumstances the use of the lead is desirable; but, when from the state of the weather and consequent absence of celestial observations, a ship's position is dependent on dead reckoning, *the lead becomes of primary importance, and its constant use indispensable to safe navigation.*" \* In obtaining a deep sea sounding a little delay may be incurred in "passing the line along," but the length of the modern steam vessels gives great facility to the performance of this simple act of seamanship; the engines might be eased and bottom obtained; thus securing, at a very small expenditure of time, the safety of life and property. The use of Sir W. Thomson's sounding machine will much facilitate the operation of deep sea sounding.

CORAL REEFS.—The secret of successful navigation among coral reefs where the lead is of little use, is to sail or steam with the sun astern of the vessel, conning her from the mast-head. The vicinity of coral reefs is often indicated by what is known as "white water," but generally the reefs show as dark green patches.

The greatest care is taken to insure the true soundings at ordinary low water springs, being shown upon the Admiralty charts, together with the nature of the bottom. Here is another delightful method for obtaining the knowledge of the ship's position. I well know the difficulty in short-handed ships of heaving the lead, still it is to be done, and steam power, and the length of our modern vessels, all help in the matter. I could not, therefore, speak of the use of

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\* Admiralty Channel Pilot.



Admiralty charts without touching upon the soundings. A position got by Sumner's method and approved by the lead would ensure the safety of many a goodly ship.

PROPER PILOTING.—Although Proper Piloting appears to open a wider field of knowledge, yet, as in Common Piloting, the sailor still finds himself dependent upon a few well-known works and instruments; he now uses celestial instead of terrestrial bodies as his guides. Constant observations of sun, moon, and stars are therefore required, while those of the moon should not be altogether neglected.

THE CHRONOMETER plays an important part in Proper Piloting. At the same time lunars should not be forgotten; in case of disaster to the chronometer, or circumstances occurring necessitating the duty of navigating without one, this old method of obtaining longitude would be found extremely useful. In taking lunars, stars lying at about equal distances east and west of the moon should be chosen for observation, in order to counteract the instrumental eccentricity of the Sextant.

THE SEXTANT, as in Common Piloting, should always be at hand; obtaining sights in cloudy weather in mid-ocean is good practice for doing the same thing when nearing the land and observations are more valuable; for the same reason the latitude should be determined on moonlight nights, by means of stars north and south of the zenith. A good longitude can also often be obtained by stars taken just before sunrise or just after sunset. Sumner's method for fixing the ship's position should be thoroughly understood, and often practised. Amplitudes and Azimuths should be constantly taken to help the sailor in the "very diligent examination of the truth of his Compass."

THE DEAD RECKONING should be carefully kept, and constant comparison made between the currents actually experienced, and those noted upon the charts. Constant attention being paid to the Standard Compass, the log, and

the steerage, engenders confidence in the dead reckoning that may be useful in making the land in thick weather. As a careful departure should be taken on leaving the land, so the ship's position should be fixed by the land as soon as possible after it is made : making a good landfall being a point of honour with the Proper Pilot. In both leaving and making the land, its height, and therefrom the distance it can be seen from sea should always be taken into consideration. In observing the altitude of peaks, &c., to determine the ship's distance off land, care should be taken to use "the arc of excess," and obtain the altitude both "on" and "off" the arc of the sextant.

This "taking a departure," and "making a landfall," are two problems or things to be done, the constant practice of which, by the help of Compass, Sextant, and land on deck ; and that of Compass and protractor, rulers, dividers, and chart in the charthouse ; is of the greatest importance to all those who are interested in the safe steering and conducting of the vessels submitted to their charge.

THE WIND AND CURRENT CHARTS now published by the Admiralty should be obtained and studied ; as from a thorough knowledge of the Winds and Currents the best methods of making passages across the ocean can alone be found out. The Sailing Directions treating upon passages, and those also that describe the coasts to which the vessel is bound, should be studied during the voyage, to insure some acquaintance with the land about to be made, and knowledge of the winds, currents, and tides in its vicinity. The regions wherein ice may be fallen in with, and seasons at which this danger is liable to be encountered should be known. The Law of Storms should be well understood ; with the locality and seasons in which Hurricanes prevail ; as also the best means of avoiding the vortex, if one of these phenomena should be fallen in with.

IN CONCLUSION, the sailor's attention is earnestly called to

the foregoing brief notes upon Piloting—Common and Proper; as although theoretically the subjects treated upon may appear so simple as to be adapted to the meanest capacity, and possibly may raise a smile upon the faces of the learned in Nautical matters, still, the power to be able to do these things, in foul weather as in fair, and to conduct vessels in safety from port to port under the ever varying changes of wind, sea, and weather, which surround the “toilers of the sea” in their continuous struggle with the elements, requires a capacity for taking trouble, unremitting attention, and can only be acquired by incessant practice on ship board and at sea. The mastery of the ocean cannot be learned upon the shore; and the poet has truly sung with regard to the sea that

“Only those who brave its dangers,  
Comprehend its mystery.”

THOMAS A. HULL,

*Commander, late Master and Pilot, R.N.*

After some remarks, which want of space precludes us from printing, on the motion of Captain Halpin, a very cordial vote of thanks was accorded to Commander Hull for his very valuable and interesting Paper.

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## WIDOWS' AND ORPHANS' FUND.

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THE notice in our pages for November under the above heading has, we are pleased to say, been the means of placing in the hands of the Committee (who desire to raise a Fund for the relief of widows and orphans of members of the Shipmasters' Society), the sum of £83, which has been made in Donations and Subscriptions.

That this amount should have been raised within three weeks is so satisfactory that we are led to entertain the hope that it will stimulate many others to come forward.



A special public meeting of the Society will be convened at an early date, and steps are now being taken to arrange for a dinner, and to procure the presence thereat of those who desire to provide the means whereby the necessities of ladies in sorrow and want may be relieved.

Subscriptions and Donations may be made payable to BENEDICT F. CRAMER, Esq., Secretary of the Shipmasters' Society, Jeffrey's Square, St. Mary Axe, London, E.C.

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THE TRAFFIC ON THE RIVER THAMES.—Notice has been given that it is intended to apply to Parliament in the ensuing Session for leave to bring in a Bill to make better provision for the control of traffic upon the Thames, and the erection of works and conveniences on the banks and other places on the river for preventing accidents and preserving life and property. Power will also be taken to prevent the use of lights or other things calculated to mislead or interfere with the safe navigation of vessels, to compel the owners and occupiers of works near the river to take such steps as may be necessary for preventing the emission of smoke and noxious vapours from their works, to subject offenders to damages, and to provide for the recovery of damages and expenses, particularly in connection with wrecks and other obstructions. The Bill also asks for powers as to controlling steam and other vessels, the number of passengers carried on them, and their speed, to abolish special rights and privileges, to provide for payment of damages; to enlarge or alter the powers of the Thames Conservators, the Corporation of Trinity House, of Deptford Strond, and of the Master, Wardens, and Commonalty of the Watermen and Lightermen of the River Thames; to repeal, vary, or extinguish certain rights and privileges and to confer others; and to give power as to levying tolls, duties, &c.

# OFFICIAL INQUIRIES WHERE

Reported since 1st

| Ship.                         | Casualty.  | Loss of Life. | Inquiry.  |
|-------------------------------|--|---------------|---|
| <i>Yanikale</i> ... ..        | Abandoned off St. Ives,<br>8th October, 1880.                        | ...           | Swansea :<br>H. C. Rothery,<br>Wreck Commr.,<br>5th November, 1880. |
| <i>Erin's Star</i> ... ..     | Lost off Point Reyes,<br>California.                                 | ...           | San Francisco :<br>H.B.M. Consul,<br>20th Sept., 1880.              |
| <i>Waverley</i> ... ..        | Stranded in the River<br>Don, Tasmania, 9th<br>July, 1880.           | ...           | Torquay :<br>Magistrate,<br>4th August, 1880.                       |
| <i>Surprise</i> ... ..        | Stranded on Black Reach,<br>Durban, 25th Aug., 1880.                 | ...           | Durban.   |
| <i>Curlew</i> ... ..          | Sunk by collision off<br>Newark Lightship, 2nd<br>October, 1880.     | 6             | Newcastle :<br>Rothery, Wk. Com.,<br>15th Nov., 1880.               |
| <i>Glenmore</i> ... ..        | Stranded in the Gulf of<br>Bothnia, 29th September,<br>1880.         | ...           | Greenwich :<br>Balguy,<br>19th Nov., 1880.                          |
| <i>Killeena</i> ... ..        | Abandoned in the<br>Atlantic, 9th October,<br>1880.                  | ...           | Glasgow :<br>Rothery,<br>Wreck Commr.,<br>24th Nov., 1880.          |
| <i>Times, s.s.</i> ... ..     | Stranded on Middle Bank,<br>28th October, 1880.                      | ...           | Belfast :<br>Resident Magistrate,<br>25th Nov., 1880.               |
| <i>Fitzjames, s.s.</i> ... .. | Stranded on Skullmartin's<br>Rock, Ireland, 4th<br>October, 1880.    | ...           | Glasgow :<br>Justices of the Peace<br>26th October, 1880.           |
| <i>Birchvale</i> ... ..       | Wrecked on the Alguada<br>Reef, Bay of Bengal,<br>14th August, 1880. | ...           | Bassien :<br>Deputy Collector,<br>25th August, 1880.                |

## CERTIFICATES HAVE BEEN DEALT WITH.

November, 1880.

| Nautical Assessors.                  | Finding of Court.  | Decision.   |
|--------------------------------------|--|---|
| Forster.<br>Clark.                   | Loss and abandonment due to the wrongful acts or defaults of the Master.     | Certificate cancelled.  |
| Sexton }<br>Cox } M.M.               | The Master in default for non-use of lead.                                   | Certificate suspended for 3 months.   |
| Murray, M.M.                         | The Master in default.   | Certificate suspended for 3 months.   |
|                                      | Gross negligence and default.  | Master's certificate suspended for 2 years.   |
|                                      | Gross default of the Master.   | Certificate suspended for 9 months. Lower grade granted.  |
| Beasley.<br>Anderson.                | Master in default for leaving the deck without a competent person in charge. | Certificate suspended for 6 months.   |
| Aplin, R.N.<br>Ward.<br>Parfitt.     | Ship improperly loaded and prematurely abandoned.                            | Master's certificate suspended for 6 months.  |
| Castle.<br>Comyn.<br>Millar.         | Master, Mate, Chief and Second Engineers in default.                         | Master's certificate suspended for 3 months; Mate reprimanded; Chief Engineer's certificate suspended for 3 months; Second Engineer's certificate suspended for 6 months. |
| Powell, R.N.<br>Murdoch.<br>Forster. | Vessel not navigated with proper and seamanlike care.                        | Master's certificate suspended for 6 months. Lower grade granted.   |
| Haden }<br>Stap } M.M.               | Master solely to blame.  | "The Court believes that the Master was in a bad state of health, and are disposed to deal leniently with him on this account." Certificate suspended for 9 months.       |



## CORRESPONDENCE.

## H. B. M. CONSULS ABROAD.

*To the Editor of the "British Merchant Service Journal."*

SIR,—Last October I arrived at —— and found that my position as master was doubtful, as the management of the vessel under my command had been changed during the voyage.

The new manager appeared on the scenes and requested H. B. M. Consul to displace me as I did not recognise the authority of the paper which he produced to me. The Consul replied that he would not remove me from my command and refused to sanction the proceeding, for which he was threatened that he would be reported to the Foreign Office. Hereupon the new manager applied to the Government, and, somehow or another, persuaded the Sheriff that he was doing only what was right in enforcing *his* claims to take charge of the ship. The Sheriff, ignoring the fact that the Consul had refused to allow the proceeding, came on board in my absence from the vessel, read a decree removing me from my command, and handed the ship over to the manager. I appealed to the Consul but never received the slightest acknowledgment of any of my letters; on the contrary, I was informed by him that as the Government had decided the question, I must either hand over the ship's papers or take the consequence.

Hitherto I have been under the impression that H. B. M. Consul abroad was a gentleman, to whom a shipmaster might apply in a case of difficulty, but I was most completely "sold" in this instance.

I should very much like to know what H. B. M. Consul is really placed in a foreign country for. Evidently, in this case, the authorities did not consider him of much account, or they would hardly have created such a precedent as is now established.

I am, Sir, yours faithfully, T. H.

## ON INVESTING MONEY TO OBTAIN A COMMAND.

*To the Editor of the "British Merchant Service Journal."*

SIR,—The Confidence Trick, vide March Number, *British Merchant Service Journal*, is something very near the truth in the present day. Has "A. B." read this? If not he should do so, and learn thereby what to avoid. Whether any lawyer could sketch out a letter, or agreement that would "hold water" I do not know; I suppose they could, but then it takes two to make a bargain. My own experience on the subject being that although promised that my shares should be bought out when I was removed from the command, at surveyor's or auctioneer's price, or valuation, when the time came for the fulfilment of this promise my friends (?) "were *not* prepared to take any further interest in the vessel." I might add that between Insurance, Interest, and Depreciation, my shares were reduced fully 30 per cent., and up to the present time the dividends are very like a duck's egg."

I remain, Sir, yours, &c.,

INNOCENTIA.

## ON INVESTING MONEY TO OBTAIN A COMMAND.

*To the Editor of the "British Merchant Service Journal."*

SIR,—Your correspondent "A. B." wishes to know what many others would be very glad to know also. Probably he has had his fingers burnt, and has discovered that money once put into a ship is not so easily got out again. There is an old adage that "Beggars must not be choosers," and that (perhaps not in so many words) is virtually what is said when any arrangement regarding obtaining a command by placing money in the vessel is in hand.

The safest way, in my opinion, is to obtain an agreement that in the event of dismissal the cash put in shall be returned in full at once, but whether he could get anyone to give this is another thing; probably he would have to be

contented with a promise to pay back "at the then market valuation of the ship." With straightforward owners this might reasonably be asked for, the difficulty always being to know whether one is dealing with straightforward people or not; as a man actually worth nothing would not hesitate to bind himself on the principle that "he might as well be killed for a sheep as for a lamb."

I am, Sir, yours faithfully,

R. N. R.

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#### SHIPPING CASUALTIES INVESTIGATIONS.

*To the Editor of the "British Merchant Service Journal."*

SIR,—Referring to the remarks of Mr. Rothery, the Commissioner of Wrecks, as quoted under the above heading in the *Times*, of the 13th November, will you allow me to state briefly why merchant captains object to Naval officers acting as Assessors.

The reason is this: Naval officers have no experience of the practical working of a ship *under the conditions which obtain in the Merchant Service*, and, therefore, are not qualified to sit in judgment on the conduct of a master in so far as such working is concerned. A Naval captain manages his ship with a well-disciplined crew, of such strength numerically as to ensure the immediate and simultaneous execution of whatever orders he may choose to give. A merchant captain has to manage a ship of a corresponding size with a crew composed of heterogeneous elements, brought together just before the commencement of each voyage, and of a numerical strength which is but a small fraction of that of the Naval crew. For instance, the captain of a gun-boat of, say, three hundred tons has under him a crew of fifty men. The master of a merchant vessel of the same size has a crew of about ten men. Is it reasonable that the former, who has always had at command his well-drilled crew of



fifty men, should sit in judgment on the conduct, in an emergency, of the latter, with his scratch crew of ten men? Is it not highly unreasonable to suppose that he is *better* qualified for the task than a man who has been trained in the Merchant Service and is therefore practically acquainted with its duties and difficulties? As regards intelligence and integrity, I suppose, there is no one for calling in question the fitness of either the one or the other.

I will not trespass further on your space, but beg to state in conclusion that what we want is, that the Assessors should be men who are thoroughly acquainted with the circumstances and requirements of the service in which we are employed, and the Commissioner a man with a practical knowledge of the sea, whether acquired in the Navy or in the Mercantile Marine, being a matter of comparative indifference.

I enclose my card, and remain, Sir,

Yours respectfully,

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## FUTURE EFFICIENCY OF ADMIRALTY CHARTS.

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**A**N excellent scheme has been originated by Commander T. A. Hull, late Superintendent of Admiralty Charts, who proposes, when requested, to overhaul charts and sailing directions on board of vessels of the Mercantile Marine, and advise the owners of any new charts and books required to place the sets in use on a correct footing. This being done the Commander undertakes to examine the charts after each voyage, and insert the requisite additions or corrections. The Committee of the Shipmasters' Society being thoroughly convinced of the value of such

proposition have determined to bring it prominently forward, feeling assured that many shipowners and masters who must have often realized the difficulty in keeping their charts in an efficient state, will readily avail themselves of the experienced services of the gallant Commander, whose kindly feeling towards the Mercantile Marine is evinced by the paper lately read before the Shipmasters' Society, and published on page 553.

The desirability of bringing the scheme before the public will be apparent when it is stated that we find that between the months of June and October, inclusive, no less than 744 corrections were made to the Admiralty charts, in 168, of which cases the corrections or additions were of so important a nature that the existing copies were ordered to be cancelled.

This fact shows the necessity of masters obtaining the latest information, so that in case of accidents they may not be found navigating by means of a faulty chart.

The following letter will place our friends in possession of all information on the subject :—

“ Noowook, Wimbledon, 8th November, 1880.

“ SIR,—I have frequently observed that the charts in use on board vessels of the Mercantile Marine, although the best obtainable when originally supplied, are often considerably in error, through not being corrected up to date for changes that are constantly occurring. Therefore, in the interests of English shipping, I would venture to ask, whether your Company would be inclined to insure the future efficiency of the charts in use on board their steamers, by having them examined, each voyage, before a steamer leaves England.

“ Should your Company look favourably on this proposition, I beg, as an officer of thirty-five years' experience in the Surveying Service of the Royal Navy and for the last six years Superintendent of Admiralty Charts, to place my

services at your disposal, and to make the following proposals.

(1.) “ That I should be allowed to examine the Admiralty Charts and books of Sailing Directions now in use on board your steamers, and then furnish a list of new charts and books that it would be necessary to purchase, to place the set in an efficient state.

(2.) “ After a vessel’s charts have thus been recruited, I would undertake in most cases to keep them corrected up to date by hand, the exceptions being where the additions or corrections made were so large, that the Admiralty have cancelled the charts in question, in which cases your Company would have to purchase new charts.

“ I would advise your Company of all new charts and sailing directions that may be published, and otherwise use my best endeavours to insure your ships leaving port as efficiently provided with charts and sailing directions as are the vessels of Her Majesty’s Navy.

The expense would, I anticipate, be small after the first outlay of bringing each ship’s folio of charts up to date ; and the remuneration required for the above examination of charts would be one guinea for each ship visited prior to her leaving England.

“ I am, Sir, your obedient servant,

THOMAS A. HULL,

“ Commander, late Master and Pilot, R.N.

“ To the Manager of the Steamship Company.

“ P.S.—On three steamships, whose charts I have been permitted to examine, I found as follows :—

“ On steamship A, out of 104 charts, 95 required renewal.

|   |    |   |    |   |    |   |
|---|----|---|----|---|----|---|
| „ | B, | „ | 49 | „ | 39 | „ |
| „ | C, | „ | 93 | „ | 73 | „ |

“ T. A. H.”



## THE "PATENT SOCKET SIGNALS."

THE truest test of anything is its success, and the progress made by these signals since their introduction about a year ago is sufficient proof of their merits; but as their name alone does not fully convey their importance to those who may not have seen them applied, it may be well to give some details of their usefulness and adaptability for the all-important business of signalling at sea in emergencies.

The "Socket Signal" takes the place of a gun on board a vessel, and is, in fact, a gun and rocket combined. It is fired from a small socket about 7 inches long and 2 inches diameter, and goes to an altitude of about 600 feet, at which height it throws out brilliant stars, explodes with a peculiar loud report, and can be heard at very great distances (from 4 to 13 miles, it is said, according to state of the weather), thus giving the double advantage of light and sound so valuable at sea—sound to arouse the attention, light to point out the position. Unlike a cumbrous gun, which is never so difficult to manage as when it is most needed—viz., in emergencies, or a rocket which cannot be fired without a match, and is useless in a fog, and the back fire from which has been known to set fire to sails, the Socket Signal needs no preparation, and can be fired under any circumstances (even with the seas breaking over the vessel), requires no match to set it off, and should the socket become full of water it does not affect or interfere with the firing of the Signal. To fire it, all that is necessary is to place a Signal in the socket, push a friction-tube down the centre tube at the top, attach a lanyard, pull it, and the thing is done.

Another important feature is their recent adoption for use in ship's boats to enable crews or passengers to attract

the attention of passing vessels in cases where it may become necessary to take to the boats. The numerous instances of failure to attract attention in cases of shipwreck, and notably the case of the boats of the steamer *American*, which foundered in mid-ocean, in April last, when through inability to attract the attention of vessels passing in sight in open day, they were exposed to the risk of not being picked up, form sufficient grounds for bringing the Socket Distress Signal to notice for this particular service. Of course it is not practicable to use a gun, and nearly as impracticable to make use of rockets, in boats, and therefore some excuse could be offered, hitherto, for the absence of suitable provision for signalling from same; but this want, it must be admitted, no longer exists, for the Socket Signal can be used in the smallest boat as well as the largest ship afloat, and with equal effect. Metallic water-tight cans to hold six or twelve signals complete have been devised for this service, and a boat provided with one of these cases, and having a socket fixed in one of the thwarts or bow, would be in a position to attract the attention of passing vessels at a distance of many miles, in any weather, by day or night.

The Board of Trade have authorised these signals, under Section 18 of the Merchant Shipping Act, 1876, in lieu of guns or rockets, on board vessels. They have been adopted by most of the large lines of steamers, and we further learn that signals somewhat similar in character, but giving out sound only, are supplied by the same manufacturers for the Trinity House, Board of Trade, and National Lifeboat Institution.

We are also assured by practical men, who are an authority in such matters, that the Socket Signals are in every respect adapted for the purposes named, and are highly approved of by every person who has seen them tried.

From what we have seen of them we are prepared to

endorse this testimony in their favour ; and the signals, in addition to merit, have the advantage of cheapness, their price placing them within reach of all.

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## NAVAL OFFICERS AS ASSESSORS IN SHIPPING CASUALTIES INVESTIGATIONS.

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PORTIONS of this paper were read at a Committee Meeting of the Shipmasters' Society, and as the subjects touched on affect the interests of the Mercantile Marine, it was decided to enter it on the Society's Journal. Certain facts since brought before the Committee seem to them to require to be more publicly noticed, and it was settled that the paper should be enlarged and sent out in the form of a pamphlet, in order to disseminate among a greater number a better knowledge of the merits of the several questions, than would be insured were it held back until the next number of the Journal appears.

Nothing would please the Shipmasters' Society more than to establish and to maintain friendly feelings towards the Royal Navy, and it is to be regretted that after the allusion made to a desire to remove the bar (*viz.*, mutual recrimination) to the wished for cordiality between the Services, such strong attacks should be made as to render it necessary in self defence, to enter fully into the points on which unjust accusations are made.

BENEDICT F. CRAMER,

*Secretary.*

November, 1880.

THERE are hardly any of the officers of the Mercantile Marine who will not readily admit that the officers of the Royal Navy are brave men and good sailors, ready to go



anywhere with their ships of war, and able to navigate them properly, and if in the following remarks any disparagement of them seems implied, it must be remembered that it is not to the Navy generally that objection is raised, but to those who set themselves forward to encroach upon ground the Master Mariners claim as belonging to them in equity if not in law.

The present Shipping Casualties Investigations Act and the Rules which have been framed for the guidance of the Court are a great instalment of justice, and though not all the Masters demand, it is sufficient for the present to satisfy the more moderate among them.

In the *British Merchant Service Journal* for November only a slight reference was made to the remarks of a writer in the *United Service Gazette*, under the title "Naval Assessors," published on 11th and 18th September, for although as early as January, 1880, the intentions of certain gentlemen, whose personal interests are vaguely represented as being the true interests of the Mercantile Marine, were known to many, it was thought better to wait ere entering fully into the matter until this purpose was demonstrated in black and white, as it unquestionably has been in the "Return to an Order, "No. 407, of the House of Commons, dated 30th August, "1880, for copy of correspondence between the Wreck Commissioner, Lloyd's Committee and others with the Board of "Trade respecting the employment of Naval officers as "Assessors in Shipping Casualties Investigations."

This Return, ordered to be printed on the 4th September, was only issued from the press on 11th November, two months after the issue of the first series of the articles above referred to, which will be found in the Appendix.

It is one thing to receive a hint of what is about to be issued by a Government Department, it is another to have documents which are undeniably departmental property placed in the hands of a newspaper correspondent. It is, in

fact, a gross dereliction of duty to make use of any document without the sanction of the head of the department, but that the writer of these articles has had access to the documents can be verified by anyone who will read the "articles" side by side with the "Return."

The writer of these articles has been pleased to designate the Shipmasters' Associations as "centres of agitation against all law." Very little investigation shows that in this matter the Associations are not the "agitators." In the main, the Master Mariners are content with the law as it now stands; the few who seem dissatisfied are the Wreck Commissioner and some of the officers of the Royal Navy who are on the list of Nautical Assessors.

The Return is very incomplete, and by no means creditable to those who are responsible for it. It is difficult to understand why a portion only of the correspondence has been published: the replies only are given, but the letters which drew them forth, and the names of the writers, are omitted. It is evident that a circular letter was not simply sent out. In the replies five different letters are acknowledged, dated respectively 19th, 22nd, 24th, 29th and 30th March; but by whom were these letters written? The form in which the anonymous inquirer has framed his questions precludes any but the desired answer, except where those written to do not think it "proper" to express any opinion.

This presentation to Parliament of an anonymous correspondence is probably the first on record.

The Magistrate's clerk of Plymouth refers to "our conversation as to the proposed discontinuance of Royal Naval officers as Assessors on Board of Trade inquiries." Several "notes" are acknowledged, "Questions" and "Queries" are also mentioned. One Stipendiary writes: "I did tell Admiral Powell the substance of the reply I should send you in the event of your putting certain queries to me."

Mr. Rothery gives two of the questions, "Whether I con-

“sider the assistance of Naval men advantageous to a proper  
“conduct of the inquiries?” and whether “I have ever found  
“naval men harsh and inconsiderate in their judgment of  
“merchant captains?”

Mr. J. T. Danson, Underwriter, Thames and Mersey, in his reply, seems to show that other questions were asked.

The statement of the writer on “Naval Assessors,” that  
“the consensus of opinions as expressed by the able Wreck  
“Commissioner, the leading Magistrates, Underwriters,  
“and others, as to the employment of officers of the Royal  
“Navy as Assessors, is unanimously in favour of the  
“retention of their services,” seems drawn from the depths  
of his imagination. The unanimity is indeed marvellous. Mr. Rothery certainly stands alone in the strength of his remarks, for he has not one good word to throw to the Mercantile Marine.

Mr. Raffles, the Stipendiary of Liverpool, “greatly regretted  
“the consequence of the late Act,” “is very sorry that  
“they (Royal Naval officers) are now to so large an extent  
“excluded.”

The Stipendiary of Cardiff “considers it a great advantage  
“to have such assistance;” but it is waste of time to give each  
opinion separately. It will suffice to show that Mr. Rothery, Mr. Raffles, Mr. M. Marshall, Mr. W. Somerville, Mr. McLaren, Mr. J. C. Thomson (Sheriff of Aberdeen), and the Greenock Magistrates are in favour of Royal Naval officers as Assessors, but they do not go to the extent of desiring to exclude merchant captains.

Mr. J. Reid and Mr. H. M. Hannan mention Naval Assessors, but do not appear to discriminate between Royal Naval and other Naval officers.

The Stipendiary of Cardiff, of Middlesborough, the Resident Magistrate of Dublin, of Queenstown, the Magistrates’ clerk of Plymouth, the Resident Magistrate of Belfast, and the late



Stipendiary of Greenwich, approve of the present Rules of Assessors being drawn from both classes.

Where does the writer find the unanimity among the "leading magistrates?"

The Stipendiary Magistrate for Swansea declines to make any comparison. The Glasgow Underwriters' Association think Royal Naval officers should not be excluded. Lloyd's point out that it certainly appears that the employment of "officers of the Royal Navy in such cases is of great advantage to the underwriters, and is by no means injurious to the interests of the masters of the mercantile marine."

As shown above, the late Stipendiary of Greenwich considers one of the assessors should be a Royal Naval officer, but he makes a most invidious and injurious reflection on merchant captains, and he gives as his opinion that the new Rules would be most unwise if they lead or in any way obstruct the presence of a naval officer from taking part in the inquiries.

The present Stipendiary of Greenwich says, "I do not think it would be proper for me to express any opinion on the points you mention," and the Borough Justices of Falmouth do not think it desirable to express an opinion on the constitution of such courts."

It is a pity the Secretary of Lloyd's does not show how his Committee have arrived at the fact that "it appears through the action of these rules it will only be rare that officers from the Royal Navy will be employed," nor is any reason alleged why they desire to move the Board of Trade, with a view to some alteration being made.

Mr. Rothery states that "the efficiency of the courts has already suffered by their practical expulsion (*i.e.*, of Royal Naval officers) from the inquiries," but he gives no grounds for this statement.

This, however, may be in the "very strong protest" he has made.

The "practical exclusion" of Royal Naval officers mentioned by Mr. Rothery, most probably arises from the action of the Treasury who object to pay for services of a third Assessor. The Act directs that when certificates may be affected, two, at least, of the Assessors shall be taken from the Mercantile Marine. Lord Sandon gives in his letter of the 15th September, 1880, full reasons for inserting this clause in the Act. The Act does not in any way prevent the appointment of Royal Naval officers, does not "exclude" them, even where certificates are dealt with, *vide* Inquiries.\* The Rules were framed after careful and protracted negotiations with the Home Secretary and the Lord Chancellor, and if Royal Naval officers are affected, it is not so much by the Rules as by the manner in which the Treasury applies them. Where does "Naval Assessors" find the fixed rules of the Board of Trade, one of which he states to be "that 'no Naval officer shall be appointed where a certificate is 'involved.'"

The writer on "Naval Assessors" thinks "if shipmasters 'were in any sense farseeing they would perceive that the 'presence of a Naval officer on the bench was the best 'guarantee that their case would be fairly inquired into."

Does he consider that the Assessors do not make a fair inquiry, or does he refer to the presiding officer?

Mr. Rothery says that Royal Naval officers are "generally 'disposed to regard the conduct and acts of merchant captains 'if anything, somewhat more leniently than the Merchant 'Assessors are wont to do." This may be advantageous to those whose certificates are in peril, but does it more ensure that "their case would be fairly inquired into," and what becomes of the public "deep interest?" If the first object of the institution of the Wreck Commissioner's Court is to

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\* S.s. *Columbine*, s.s. *Durley*, s.s. *Travancore*, s.s. *Montana*, s.s. *Musgrave*, s.s. *Senegal*, &c.

guard the interests of the public, what gain is there by the substitution of Naval officers who are more lenient to those "defendants or quasi-defendants," as they are called by the Greenock Magistrates, in the place of Merchant Assessors who, "perhaps not unnaturally," as even Mr. Rothery agrees, "seem to regard the captain of the merchant vessel as being "more directly responsible for all that goes on on board."

One of the objections to the new Rules would seem to be that the appointment of Assessors is now vested in the Secretary of State, instead of being in the hands of the presiding officer.

Mr. Rothery made some strong remarks on this at the first Inquiry held by him under the new Rules, and in his letter of the 20th March, now specially under review, he remarks in a most injudicious manner on the Act and on its framers, he gives his opinion that "it is a very ill-advised measure."

His especial duties are to carry out Inquiries under that Act, and it is to be regretted that he does not take the same correct view of his functions as is taken by the Greenwich Police Magistrate who writes, "I do not think it would be "proper for me to express any opinion on the points you "mention."

Mr. Rothery not only commits this impropriety but he states that the Act was hurried through Parliament, and in support of this assertion gives dates for the introduction of, 5th August, and the Royal Assent, 12th August, to the Bill, which are incorrect, the fact being that the Bill was read for the first time on the 25th July, and only became law on 15th August; but Lord Sandon states that he gave himself "more than a year with the advantages my official position "afforded for observation," &c., &c., and that the Rules "were framed after careful and protracted negotiations with "the Home Secretary and the Lord Chancellor."

Had Mr. Rothery appended a copy of the correspondence



showing the result of "I have since protested in the strongest manner," and the reply to his observations, "I consider that this measure seems to have been passed, not to the public interest as to benefit the merchant captains," it might be possible to see some ground for such strong remarks.

Mr. Rothery may be "a law unto himself," but the world is not inclined to rank him as superior in experience or in judicial knowledge above Lord Sandon, the Home Secretary, and the Lord Chancellor. These three great officers, the late President of the Board of Trade who avows he has given one whole year of careful consideration to the matter, the Home Secretary, and a Lord Chancellor of whose professional knowledge not even a political opponent can speak ill, must yield to that functionary the "able Wreck Commissioner," whose dignity has been hurt because an Act of Parliament has been passed without his imprimatur, and who in consequence joins an agitation against the very law that makes him what he is. If the Act that was first passed were in truth an "Act to provide a berth for the Wreck Commissioner," it does seem hard that he should find himself placed in subordination to a Home Secretary and a Lord Chancellor, to say nothing of a farseeing President of the Board of Trade, who so expressly and at great length set forth the reasons that influenced him, "in case hereafter it should be proposed to revert in any way to the former system by means of either new rules or fresh legislation."

A few remarks on the Courts investigating casualties and the manner in which the Inquiries are conducted will not be out of place. As is stated in the *British Merchant Service Journal*, "the competency of the legal functionaries to put nautical questions to witnesses, or the selection of Assessors, the views of our contemporary (*The United Service Gazette*) are identical with our own, and are expressed in similar language to that we have employed when dealing with the subject."

Taking these two papers, one of which would seem to be the mouthpiece of the Naval Assessors, while the other represents the Mercantile Marine, it is evident that there is some dissatisfaction in regard to the manner of conducting the Inquiries. "Naval Assessor" demands that "the Assessors "should be enabled to put any question they may wish, and "not, as now, through the presiding Magistrate." "*That oral judgment should not be given.* The judgment should be that of "the Court, written and signed before being made public, as "at present Assessors find themselves committed to a judgment which practically they have had little to do with." But Mr. Rothery distinctly states that the "decision in each "case is that of the Court, and not of the individual members "composing it." Taking a "consensus of the opinions" given on this point there is little doubt that Assessors, no matter of which class, have not much to do with the judgments of some of the Courts. No one would believe that Assessors, whether Naval or Mercantile Marine officers, would give as their deliberate opinion that when a man had been in command for 22 years "We attribute his immunity from accident "more to good luck than to good seamanship." Every sailor knows that immunity can only be secured by skill and care.

It is, indeed, satisfactory to learn that "Naval officers of "the rank and experience from which Assessors are appointed "at least have had experience in judicial functions as members "of Courts-Martial and otherwise, and are thoroughly familiar "with the laws of evidence."

Such men would be invaluable as Judges on the bench; it is admitted by every lawyer that "a thorough knowledge "of the laws of evidence" is a qualification rarely found even among the leaders of the Bar.

The bulky volumes of "Taylor on Evidence" must take up a conspicuous position on the shelves of an officer's cabin. "A thorough knowledge of the laws of evidence" would bring to any officer a position that would cause him to

regard the fees paid in the Wreck Commissioner's Court as not worth picking up.

Can the writer of these words have thought of the effect of accusing Naval officers of being thorough lawyers. Does not Smyth's "Sailor's Word Book" define "*Sea-lawyer*—An idle, "litigious long-shorer, more given to question orders than "to obey them?"

The writer of the article "Mercantile Marine Legislation," in *United Service Gazette* of 2nd October, endorses some of the remarks of "Naval Assessors," and alludes to a case as "illustrating the necessity for the employment of officers "who are perfectly independent of the shipping interests as a "safeguard that the general interests of the public are represented in the Courts." These remarks, coupled with the strong but very unnecessary reflections made by a late Stipendiary of Greenwich, that "The Naval Officer comes "perfectly free from whether the ship lost belong to the "firm A., B., C., whereas the merchant captain knows the "builders, underwriters, *et hoc genus omne*," cast a slur upon the Mercantile Marine. Very little investigation would, if the result were published, show where the independence of the shipping interest is really to be found.

If "Naval Assessors" is truly desirous, either by the means he suggests of a Committee of the House of Commons or by any other means, to ensure that Courts of Inquiry into Mercantile Marine disasters shall possess the confidence of the public, there must be a cessation to all attempts to make invidious comparisons or to raise one class above another, especially in matters that are of very much more importance to the one than to the other. If the presence of Royal Naval officers is so advisable, might it not be suggested that the selection be made solely from the navigating branch or from among those who have qualified for it?

It is a pity that this agitation in regard to Assessorships should, by a small clique, have been represented as affecting



the interests of so noble a profession as the Royal Navy. It most certainly cannot affect more than a few who have shown why they complain.

Whether their complaint is well founded or not can be inquired into without any need to vilify others ; no cause is aided by such means, and no cause can succeed when the only instructions given to their counsel are "No case ; abuse the other side."

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## APPENDIX.

### NAVAL ASSESSORS.—I.

For the last two or three years there has unquestionably been an increasing dissatisfaction in the Mercantile Marine with the constitution of the Courts for investigating casualties at sea, and undoubtedly reform was needed. The inquiries ordered by the Board of Trade seemed to be the result of caprice rather than of any defined system. Flagrant cases, in some instances where the shipowner was all-powerful, were never brought under investigation, while comparatively trivial cases were often made the subject of a long and expensive inquiry. From the pressure of his ordinary work the stipendiary magistrate could give but a very limited time to the maritime case, and the Assessors, paid by fees, and at a low scale, were not disposed to push it forward. The cases were investigated frequently in the police-courts, which gave them a quasi-criminal character. The Assessors who had been formerly employed by the Board of Trade, and selected in important cases according to their special knowledge, were latterly nominated by the Courts, and such nomination was looked upon as a piece of patronage by the magistrate, and certain places became as it were pocket boroughs for certain Assessors. Then the rules of procedure in the Court became more of a trial than an investigation, and the functions of the Assessors were more that of a jury to decide according to the evidence led by, or cross-examination of, a skilful counsel, and not according to evidence obtainable by professional questions. It was, no doubt, owing to the searching questions put by officers of the Royal Navy, who sat as Assessors, coupled with Mr. Plimsoll's agitation, that the pressure of public opinion was brought to bear on the Board of Trade for fuller inquiry, and which also caused Shipmasters' Associations to spring up with the view of defending the shipmaster on the investigations. Un-

happily, however, these Associations are becoming something more, namely, centres of agitation against all law, and by their action and speech seem to assume that no shipmaster should be accountable for his professional deeds, and that the Legislature have no right to punish him. The publications issued by the Associations are in the strain that the State, having once given a shipmaster a certificate of competency, cannot revoke it. Of course the absurdity of such an argument is palpable, but it exists none the less. The Board of Trade has almost pandered to this doctrine; it has undeniably shown a want of firmness in dealing with cases by giving back certificates if only sufficient clamour has been raised, and this more than once in really bad cases, and in the face of the contrarily expressed opinions of magistrates and Assessors. Emboldened by their success, the Associations went further, and on the tenour of the Act of 1879—introduced by Lord Sandon and Mr. J. G. Talbot in July of that year, known as the Shipping Casualties Investigation Act—reaching them, the Societies communicated with each other, and a deputation of delegates was received by Lord Sandon on August 5 of the same year, to urge upon him certain demands, such as the right of appeal, and that Assessors should be exclusively selected from the Mercantile Marine, the speakers, one and all, if correctly reported in a pamphlet issued by the Hull Shipmasters' Association, indulging in remarks as to the unfitness of Naval officers to serve as Assessors, and implying generally that officers of the Navy could not possibly appreciate the difficulties of a merchant captain. Lord Sandon replied, "It might be more satisfactory to you as shipmasters that officers of the Royal Navy should not act as Assessors, but would it not be too much of a family affair if you excluded Royal Navy men? My meaning is this; do not the public look upon these men as affording some security that there is no unfair partiality on the Courts of Inquiry?" Eventually Lord Sandon conceded that "where the certificate of an officer is in question there shall be three Assessors, two of whom must be selected from the Merchant Navy." The Act as amended is dated August 15, 1879. In fact it passed through both Houses and received the Royal Assent in seven days, but instead of being worded as stated above, it runs, where any such investigation involves or appears likely to involve any question as to certificate of a master, mate, or engineer, "*it shall be held with the assistance of not less than two Assessors having experience in the Merchant Service.*" Rules were directed by the Act to be framed by the Lord Chancellor, and accordingly on December 20, 1879, these rules were issued containing a classification of, and peculiar qualifications for, the Assessors, which the Act certainly does not appear to have contemplated. After, in



Class I., enumerating the qualifications of Mercantile Marine Masters, and, in Class II., of Mercantile Marine Engineers, Class III. commences with admirals, captains, and staff-commanders of the Royal Navy, Class IV. with persons of nautical engineering or other special skill or knowledge. While the inferior position accorded to the Royal Navy in this classification should not be passed over, the application of these rules has given cause for surprise. It appears that, where an inquiry is ordered by the Board of Trade, the Home Secretary is advised from which of the classes the Assessors shall be taken—and they are by the latter department appointed in fair rotation, but the Board of Trade are not, apparently, guided by any fixed rule, except on two points, these being, first, that no Naval officer shall be appointed where a certificate is involved; second, that no Naval officer shall be appointed where the inquiry is one of machinery, boilers, &c. Thus, Naval officers have only been selected as Assessors in cases where no shipmaster's certificate has been at stake. But it seems somewhat illogical that, if a Naval officer is competent to give an opinion in the case of missing ships, he is not equally competent to decide on cases in which a certificate is involved. Again, as to the fitness of the Royal Naval Assessor to sit on marine engineering questions, the Mercantile Assessor who, in all probability, has never qualified for steam, sits with an engineer, while the Naval officer, who in the majority of cases, certainly of those now acting as Assessors, has had to pass a stiff examination in steam, is excluded.

The whole subject is one, however, of such importance that we must defer its further consideration until our next issue.—(*United Service Gazette*, 11th September, 1880.)

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## NAVAL ASSESSORS.—II.

In returning to the important subject of the constitution of courts for investigating casualties in the Mercantile Marine, we would direct the attention of such legislators as Mr. Thomas Brassey and others who have the welfare of the Merchant Service at heart, and who have so strongly urged, as one great step towards the improvements of that service no less than for the good of the country itself, a closer alliance between it and the Royal Navy, that the great obstruction to such a desideratum lies with the shipmasters of the Mercantile Marine and their advisers, and not with the officers of the Royal Navy. This is a fact plainly evident from the proceedings of the several Shipmasters' Associations at the various ports in connection with the constitution of courts for the investigation of shipping



casualties. At a meeting of the Liverpool Marine Association, held on April 24 last, under the presidency of the Mayor, the following was among the resolutions passed:—"That this meeting . . . is of opinion that until the Government carry out the recommendations of the Royal Commission on Unseaworthy Ships, so as to place the certificates of competency granted by the State to masters and officers, who are thus pronounced competent and capable, beyond the reach of Courts of Inquiry, so called, the nautical members of the Mercantile Marine will still remain in an unjust and anomalous position; and this body urges upon all nautical men to unite for the protection of their certificates, *as also for the elimination from the list of Nautical Assessors to Courts of Inquiry of all Royal Naval officers, as being an injustice to the Merchant Service.*" It is unnecessary to comment upon the desire for exceptional legislation, which is to exempt a shipmaster or a mate from the consequences of professional *lâches* involving not merely property but life. "Once a certificated master or mate always one," in spite of culpable negligence or practical proof of inability, is simply absurd. There is no service in the world in which suspension or dismissal from office is not a legitimate punishment consequent upon dereliction of duty. In the Royal Navy professional *lâches* are thus punished. It is almost impossible to conceive a body of sensible men so stultifying themselves by passing such a resolution, and yet there were present three members of the Legislature, besides some leading ship-owners. The concensus of opinions as expressed by the able Wreck Commissioner, the leading magistrates, underwriters, and others, as to the employment of officers of the Royal Navy as Assessors, is unanimously in favour of the retention of their services. If shipmasters were in any sense farseeing men they would perceive that the presence of a Naval officer on the bench was the best guarantee that their case would be fairly inquired into. It is not, however, peculiar to shipmasters, this impatience of all law, and the Government appears wanting in moral courage to enforce the law, if there be only an agitation got up against it, as being inimical to a peculiar interest. The Committee of Lloyd's fully recognise the desirability of having Naval officers as Assessors, and have, we learn, addressed the Board of Trade to this effect. It is rumoured that the classification we referred to last week, and which is an undoubted slight upon the Royal Navy, was formulated at the Admiralty. We hesitate to believe, however, that any Naval department, although its head may not belong to the main executive line of the service, could place the Navy in so subordinate a position. Be this as it may, it behoves Lord Northbrook, as the chief of the service, to look to this, for while his lordship has the honour of holding

the position he now does as First Lord, anything derogatory to the Navy is reflected upon himself.

The reform so evidently necessary in the courts for investigating casualties in the Mercantile Marine should, we venture to say, be somewhat on the following lines: 1. Assessors should be made an integral part of the Court, not merely as advisers, but be held directly responsible for the judgment given. They should be enabled to put any questions they may wish, and not, as now, through the presiding magistrate. Naval officers of the rank and experience from which Assessors are appointed at least have had experience in judicial functions as members of courts-martial and otherwise, and are thoroughly familiar with the laws of evidence. No matter how experienced the magistrate may be in his judicial capacity, a nautical man alone can put the questions which will be understood by a seaman. 2. That the classification of Assessors should be abolished, except so far as that he should have had command of a seagoing ship for a given number of years; and if any Assessors possess special acquirements, such as steam, knowledge of particular coasts, &c., they might be shown as such, and employed on cases more particularly requiring such special knowledge. 3. The number of Assessors should be limited, so as to give sufficient remuneration to induce good men to devote themselves entirely to the work. 4. That the question of precedence should be defined. 5. That the Assessors should know to which Department they should look to attend to any representations they may have to make. At present both the Home Office and the Board of Trade claim authority, but when reference is made to either the one shifts the responsibility of reply to the other. 6. *That oral judgment should not be given.* The judgment should be that of the Court, written and signed before being made public, as at present Assessors find themselves committed to a judgment which practically they have had little to do with.

Before, however, further legislation is introduced, it would be wise for a Committee of the House of Commons to sit for the purpose of fully inquiring into the whole working of the present Act, together with the procedure of the Courts, and obtain the opinions of the Wreck Commissioner, magistrates, Assessors, and others as to the same. Then possibly Courts of Inquiry into Mercantile Marine disasters would be formed possessing the confidence of the public.—(*United Service Gazette*, 18th September, 1880.)

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## LETTERS PUBLISHED IN THE "UNITED SERVICE GAZETTE."

The omitted paragraphs are marked thus (?).

*To the Editor of the "United Service Gazette."*

"SIR,—In an article, published under the title of 'Naval Assessors,' in your columns of September 11 and 18, and recently brought to my notice, I observe that the various Shipmasters' Associations established at the principal ports are made the subject of *severe adverse comment*.\*

"They are represented as being 'centres of agitation against all law,' and great exception is taken to their action in reference to the Royal Commissioners' Report upon Unseaworthy Ships.

"As the representative of the Shipmasters' Society established in London, I would ask you to afford me space in your next issue to refer to what, unless contradicted, might convey a false impression to the minds of your readers. To the charge brought against the various Societies of being *centres of agitation*, I beg to give *an emphatic denial*.† The Articles of Association of the Societies will afford the best proof of their *bona fides*, and will testify to their desire to promote not only the interests of their members, but also the welfare of the Mercantile Marine of England.

"With this object in view, the Societies have striven, and will still endeavour to urge upon Government the justice of giving effect to the recommendations of the Royal Commissioners, who have declared that the proceedings of Courts of Inquiry are not in conformity with constitutional procedure; and that certificates of competency should never be suspended."

(?) A perusal of the voluminous evidence and emphatic report published by the Royal Commission would, I feel convinced, cause surprise to those who had not seen it, that Parliament has so long deferred the remedy for what has been so strongly condemned.

"The Societies, therefore, are acting in a perfectly legitimate manner when they seek to obtain for the masters and officers of the Merchant Service the benefit of a carefully-drafted report, which proves to be entirely in their favour.

"It is the desire of shipmasters to afford Government the benefit of their practical knowledge, and the Societies, if consulted, would furnish valuable information upon matters affecting the welfare of the Mercantile Marine."

\* *In original*, "very severe language."

† *In original*, "lawless institutions, I beg to give a most emphatic denial."



(?) I beg to enclose a copy of the Rules of the Shipmasters' Society and would draw your attention to Section IV. of the Memorandum of Association by which you will see that the Society does not defend cases of negligence or culpable misconduct as implied in the latter portion of the article before referred to.

"BENEDICT F. CRAMER,

*Secretary.*

"Shipmasters' Society, Jeffrey's Square,  
St. Mary Axe, London, E.C.,  
11th November, 1880."

[Our Mercantile Marine friends have certainly misunderstood our meaning. As controversy, however, is not likely to assist us in bringing about the object we are so desirous of assisting to attain, viz., a closer relationship between the Royal and the Mercantile Navy, we publish the above without comment.—ED. U. S. G.]

*United Service Gazette*, 20th November, 1880:—

#### "SHIPMASTERS' ASSOCIATIONS.

*To the Editor of the "United Service Gazette."*

"SIR,—The position which the Shipmasters' Associations have taken with regard to the employment of Naval officers as Assessors, and generally towards the Naval service, is much to be regretted, as likely to hinder the efforts you have made in your journal to raise the tone of the Mercantile Marine, and bring it into cordial relationship with the Navy. On the part of the Navy there can be but one feeling, and that is of sympathy with the peculiar difficulties and position of the shipmasters—a sympathy which has found expression in Rear-Admiral H.R.H. the Duke of Edinburgh and Admiral Sir R. Collinson becoming respectively president and vice-president of the London Shipmasters' Association. It is consequently difficult to understand the ground of so much ill-feeling on the part of the members of an association towards the Service to which their president and vice-president deem it an honour to belong.

"These remarks are drawn forth from reading the reports of speeches and articles in the *British Mercantile Service Journal*; conducted by the London Shipmasters' Society, and I am sure H.R.H. the Duke of Edinburgh cannot, with either complacency or approval, read the remarks in which this and the affiliated societies apparently indulge with regard to the Navy.

"CAPTAIN, R.N."

It will doubtless occur to the reader that the above editorial note would have found a more suitable position had it been added to the latter communication.

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NAVAL OFFICERS AS ASSESSORS IN SHIPPING CASUALTIE  
INVESTIGATIONS.

*To the Editor of the "British Merchant Service Journal."*

SIR,—The perusal of the pamphlet recently published by the Shipmasters' Society on the subject of "Naval Officers as Assessors in Shipping Casualties Investigations," induced me to obtain a copy of the Parliamentary Return therein alluded to, for I wished to see what grounds the writers of the pamphlet and of the articles given in the Appendix, as extracted from the *United Service Gazette*, had for the strong views taken by them not only on this subject, but on Courts of Inquiry, and on the need for reform in a law which was only passed last year. The careful study of all these papers has led me to jot down a few remarks, and to send you some information which has come to me touching the independence of the shipping interests which, according to the extract given in the pamphlet as taken from an article in the same paper, of 2nd October, entitled "Mercantile Marine Legislation", is the "safeguard that the general interests of the public, are represented in the Courts," a former stipendiary alleging this want of independence in merchant captains to be the reason why it is "absolutely necessary in these inquiries to have a naval officer as one, at least, of the assessors." Some of this information may tally with the result of the "very little investigation" alluded to in the pamphlet, if not it may interest your readers.

I follow as much as possible the writer of the pamphlet in preferring to use the very words of those I quote, as I escape thereby all mischance of clothing their opinions in words that may intensify or may lessen their real meaning.

I think the subscribers to your Journal will the better understand the pamphlet and these remarks if you will publish Mr. Rothery's letter as given in the Return, it is a real gem in the strangest official casket I have ever seen during a long life of officialdom.

Ex. O.

The writer of the pamphlet seems unable to find a reason satisfactory to his mind for the publication of this Return in an incomplete form. Regard to economy may have had something to do with it. The Board of Trade has evidently been troubled with piles of letters, many of them, no doubt, simply full of the bad effect of the recent change in the law on the pockets of the writers ; to publish such letters would be deemed a waste of public money and useless from a public point of view, and thus the action of the Board in cutting down the correspondence was, no doubt, right ; for although a few, from a keen interest in the subject, might wade through a long Return to learn the cause of such a movement, and to ascertain the originator of it, the general public would regard it as being as entertaining and, perhaps, as useful as many of the Board's official publications. Consideration for the writers may also have led to the suppression of their letters. This very Return gives a convincing proof that to publish a man's letter is not, necessarily, to add to his reputation for sense, nor in any way to do him good, nor to help him to carry out his aims. Mr. Cross "received " from several of the assessors representations pointing out " that the exclusion of commanders, coupled with the admission of staff commanders, is open to objection," and it is palpable that had no discretion been exercised, a bulky volume would have resulted ; but whether the discretion used is not that which is given to a man only by Statute or by the rules of his office, is a point on which the writer of the pamphlet has touched very slightly. He might have written



very strongly, for this production is peculiar from beginning to end. One of the smaller peculiarities is, that, judging by the list, on page 6 of the Return, "Names of Assessors appointed, &c. Dated 20th April, 1880," the Commanders of the Royal and of the Indian Navy, and the Staff-Commanders, have been struck out. The list only contains six names, one of them being "In commission," and, presumably, not available, although the Board of Trade gave their opinion "that the number of assessors in Class III. should "not be less than nine." The officers thus left for duty are the five who signed the letter of 10th May, 1880, complaining of their "unsatisfactory position," and who coerced themselves to remain quiet from the 5th August, 1879, when the deputation they allude to was received until the(?) 19th March, 1880, before they took notice of "certain allegations," "which we have felt called on to reply to, by obtaining the opinions of "those who alone could know." The writer on "Nautical Assessors," in the *Nautical Magazine* for December, 1880, is, no doubt, correct in saying "The ostensible object of the "letter is to refute certain allegations said to have been made "respecting naval officers, but really the chief point is unquestionably contained in their reference to 'the almost practical "exclusion of naval officers from these inquiries.'" The writer of the pamphlet, who undoubtedly has given much consideration to the subject, has evidently overlooked the statement that "printed copies of the opinions" were sent to the Board of Trade, so that the non-publication of the letters which drew forth these opinions, may be due to the non-possession of them by the Board, but this reason would make the Return still more peculiar; to publish answers without questions is like taking an extract without regard to the context. It is not likely that the Board pigeon-holed this collective letter, or failed to reply to it; the Return shows that it was sent to the Home Office which then called for "a list of wreck "inquiries held in this country since the passing of the Ship-

“ping Casualties Investigation Act, 1879, showing the employment of the various classes of assessors, etc.,” *vide* Return, Enclosure 6, and then the matter, apparently, was officially dropped. Probably the writer of “Naval Assessors” in *United Service Gazette* can complete the history of this anomalous Return. His Fifth Reform “That the Assessors should know to which Department they should look to attend to any representations they may have to make. At present, both the Home Office and the Board of Trade claim authority, but when reference is made to either the one shifts the responsibility of reply to the other,” might be read to prove that the Home Office and the Board of Trade see no reason to alter the law or the regulations as to assessors; and, therefore, to bring pressure on the Government, the first step was to get the correspondence moved for, with a view to ulterior measures. The result can hardly be deemed satisfactory, for certainly before any alteration can be made the official correspondence must be moved for and a complete Return obtained. “Naval Assessors” can rest assured that people will readily agree with him that “it is not, however, peculiar to shipmasters, this impatience of all law,” while it is to be hoped that he may have to wait some time ere he can say that “the Government appears wanting in moral courage to enforce the law, if there be only an agitation got up against it, as being inimical to a peculiar interest.”

The suggestion that the Naval Assessors should be selected from the navigating branch of the Royal Navy or from among those who have qualified for it, seems to find very strong support in the correspondence in January, 1880, of the Home Office, Board of Trade, and the Admiralty on the point whether Commanders of the late Indian Navy, who, like the Staff Commanders of the Royal Navy were navigating officers, are eligible to be nominated as Assessors. The Home Office wished to learn whether in the opinion of the Lords of the

Admiralty the “qualifications required for Class III. are in these respects, and also generally suitable to procure the services of those officers who are practically the best qualified to sit as Royal Naval assessors in inquiries held into shipping casualties under the Merchant Shipping Acts.” The Mercantile Marine desire to have as their judges those who are “practically the best qualified,” and if the Government cannot yet concede to them trial by their peers, they would prefer to be sat upon by the navigating branch of the Royal Navy as comprising the men whose duties and whose training more coincide with their own than do those of the fighting portion of the fleet. It requires the experience of years on the part of those officers of the Royal Navy who qualify in navigation to enable them to appreciate the difficulties of men who have to navigate in all seas and in all states of the weather, and even they can do but little justice to the peculiar troubles of a merchant captain, for no officer in the smallest of H.M.’s vessels ever has to meet bad weather with an undermanned or an ill-found vessel, or is bound to push on at all costs. The officers of the Royal Navy employed on survey duties are men who have special qualifications in certain cases, and little objection can be made to them. But the subject of qualifications is a large one, and, perhaps, as under the Act the present list of assessors only remains in force until the end of the year, the Government may be pleased in issuing a new list to go closely into the qualifications of those on the list, and to revise it so far as the Act will permit. It is to be feared, however, that Mr. Cross’ “intention to insert a saving clause in favour of those officers who are now on the list,” will prevent this being now done and it will result in intensifying the feeling of these officers that they have a vested interest in the assessorships, and it will still maintain class interest above the general good. The very first opportunity should be seized to bring the lists into strict conformity with the law,



no saving clause should be allowed, for the matter is really not one of private interest but of justice towards a very large body of men who are placed under a special law solely in the public interest.

If the present classification of assessors be abolished, as has been suggested, the command of a sea-going vessel (harbour or shore service not counting) for a certain number of years being made the only qualification, it would be necessary to fix a limit of time within which the command has been exercised. If the Government would not find it detrimental to the State, the Mercantile Marine would probably be willing that officers in actual command of sea-going ships of either service should sit as Assessors—approximating the procedure to that which governs the nomination of officers to sit upon Courts-Martial, to which retired officers are never appointed.

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The reference in the pamphlet to the extract regarding “Officers who are perfectly independent of the shipping interest,” not improbably alludes to a Salvage Company, the prospectus of which can hardly have been in front of the writer on “Mercantile Marine Legislation,” or he would not have written about safeguards.

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So far as Mr. Rothery’s memory carries him, “there was always entire unanimity between the two Assessors as to the judgment to be given, except in one case;” but may not this entire unanimity have arisen from the cause which led the stipendiary of Middlesboro’ to rejoice at the alteration in the nomination of assessors, a duty he disliked so very much because “I always felt that the assessors never met me on terms of equality; they always seemed afraid to assert their position, fearing that if they were to do so it might give offence and put an end to their chances of future

“nominations;” or can the frequenters of the Wreck Commissioner’s Court account for the entire unanimity. Are the judgments those of the entire Court? “Naval Assessors” in wishing to make the Assessors an integral part of the Court, directly responsible for the judgment given, would imply that they are not, and the writer of the article in asking, “That oral judgments should not be given. The judgment should be that of the Court, written and signed before being made public, as at present Assessors find themselves committed to a judgment which practically they have had little to do with,” demands a reform that would be a boon if it only put a check upon undue verbosity.

A recent report, “*West of England*,” specially notes that a written judgment was delivered. This is a step in the right direction, and a few more inquiries such as the “Tay Bridge” would probably do good by insuring a real voice in matters to the assessors of either service. The delivery of written judgments would do away with the difference that is said to exist between the judgments as delivered and as published. Mr. Rothery, it is true, states “the decision in each case is that of the court, and not of the individual members composing it.” There may be some subtle distinction between “decision” and “judgment” which may account for this difference among the doctors, or these opposite statements can perhaps be reconciled, or it may be possible to mention some case which may be the exception that proves the rule, but memory cannot recall any report in which assessors of either service have given expression officially to any individual opinion. The “Tay Bridge” is alluded to, because though not conducted under the Shipping Casualties Investigation Act, it is a case wherein the assessors would not allow the presiding officer to make them responsible under the judicial “we” for opinions they could not hold with credit to their scientific reputations, and the *British Merchant Service Journal*, and other papers, have

mentioned opinions delivered by the court which no sailor could possibly subscribe.

[Acting on the suggestion, we reproduce from the Return Mr. Rothery's letter, and in regard to the remarks, the greater part of which we omit, we will only say that the result of our investigations is still more conclusive as to "where the "independence is really to be found."—ED. *B.M.S.*.]

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From H. C. Rothery, Esq., Wreck Commissioner.

"Office of the Wreck Commissioner,

"Somerset House, 20th March, 1880.

My dear Sir,—Your letter of the 19th instant reached me only late this evening, owing to my having been sitting all day on a case at Poplar, and I now hasten to reply to it. You ask me first, "whether I consider the assistance of naval men advantageous to a proper conduct of the inquiries," as well before myself as before the stipendiaries and magistrates. In my opinion they were of the greatest service, and I think that the efficiency of the courts has already suffered by their practical expulsion from the inquiries. Their knowledge and independence of character made them especially valuable as advisers, and in my opinion we were extremely fortunate in having secured for these inquiries the services of officers of such high position and such distinguished ability.

In reply to your second question, whether "I have ever found naval men harsh and inconsiderate in their judgment of merchant captains," I can only say that, so far as my experience extends, I have found them generally disposed to regard the conduct and acts of merchant captains, if anything, somewhat more leniently than the merchant assessors are wont to do; the latter, perhaps not unnaturally, seem to regard the captain of the merchant vessel as being more directly responsible for all that goes on board. I should add, that before the passing of the unfortunate Act of last Session, it was my practice to appoint one naval officer and



merchant captain as the assessors for each inquiry, and, so far as I remember, there was always entire unanimity between the two assessors as to the judgment to be given, except in one case, when the Royal Navy assessor was of opinion that the blame of the casualty should be shared between the master and first officer, whereas the merchant assessor was of opinion that the whole blame rested with the master. If, as your letter seems to imply, any of the deputation who waited last year on Lord Sandon stated that naval men were disposed to be harsh and inconsiderate in their judgment of merchant captains, they stated that which was untrue. It is obvious to any person who considers the question for a moment, that none of the members of the deputation could have known the contrary even if it had been so, for the decision in each case is that of the court, and not of the individual members composing it; and I very much doubt whether any of the assessors, Royal Navy or merchant, ever stated to any member of the deputation that the naval assessors were more disposed to be harsh and inconsiderate to merchant captains than the merchant assessors were.

I will only add that the Act of last Session, which has practically disqualified naval officers from sitting as assessors on these inquiries, was, in my opinion a very ill-advised measure. It was hurried through Parliament quite at the close of the Session, having been introduced, I believe, on the 5th, and received the Royal Assent on the 12th August, and without any opportunity having been afforded to the public, who have a deep interest in these inquiries, of expressing an opinion on its provisions. I knew nothing of the Act until it had become law, and I have since protested in the strongest manner against that portion of it which seeks to exclude naval officers from these inquiries; and more especially against the recent rules which seek to carry that exclusion even beyond what the Statute seems to contemplate. I con-

sider that this measure, which seems to have been passed, not so much with a view to public interest, as to benefit the merchant captains, whose conduct may be the object of the inquiry, is one of the greatest blows that has been aimed at the independency and efficiency of these Courts.

Believe me, &c.

(signed) H. C. ROTHERY,

Wreck Commissioner.

“The Secretary, Lloyd’s,

“3rd December, 1880.

“Royal Exchange, E.C.

“SIR,—I am directed by the Committee of the Shipmasters’ Society to state that a copy of a Parliamentary Return, No. 407, respecting the employment of Naval Officers as Assessors in Shipping Casualties Investigations, has been brought to their notice, and they observe that it contains a letter from the Committee of Lloyd’s to the Board of Trade.

“The letter referred to states that it appears that Royal Naval Officers appointed as Assessors will rarely be employed in Investigations into Shipping Casualties; that the employment of these Officers in such cases is of great advantage to underwriters, and by no means injurious to the interests of masters of the Mercantile Marine.

“I am instructed to request that the Committee of Lloyd’s will be so good as to inform this Society the grounds upon which the above-mentioned opinions were arrived at.

“I am, Sir, your obedient servant,

“B. F. CRAMER, *Secretary.*”

(No. 9587.)

“Lloyd’s, 8th December, 1880.

“The Secretary, Shipmasters’ Society.

“SIR,—I am directed by the Committee of Lloyd’s to acknowledge the receipt of your letter of the 3rd inst., with

reference to the correspondence contained in the Parliamentary Return, No. 407, and to inform you that the opinion of the Committee of Lloyd's was arrived at in the case referred to, as in all other cases, after mature and careful consideration, and an impartial investigation of the circumstances laid before them.

“ I am, Sir, your obedient servant,

(Signed) “ H. M. HOZIER, *Secretary.*”

[We cannot regard this as any reply. No grounds for the opinion are given, and the “mature and careful consideration” may be that shown in “Lighthouse Characteristics,” in our number for July, 1880, or that endorsed by the *Nautical Magazine* for December, 1880, page 1009, on “Nautical Assessors.”—ED. B. M. S. 7.]

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## SHIPMASTERS' SOCIETY MEMORIAL.

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TO THE RT. HONOURABLE JOSEPH CHAMBERLAIN, M.P.,  
PRESIDENT.

Committee of Privy Council for Trade.

The humble Memorial of the LONDON SHIPMASTERS' SOCIETY, of Jeffrey's Square, St. Mary Axe, in the City of London, Sheweth : That your Memorialists are composed of a body of Certificated Master Mariners and Officers in the British Mercantile Marine who are Members of the Association, and they have been established for the purpose of promoting the interests of the Mercantile Marine, and improving the condition of all connected with it.

That during the last four years your Memorialists have



constantly had under their consideration the proceedings of Courts of Inquiry into Shipping Casualties, a matter upon which they were constantly receiving complaints from Members of the Association and others interested in Shipping, arising out of the unsatisfactory constitution and procedure of those Courts, the mode in which the Assessors were appointed to assist the presiding Commissioner or Magistrate, and various other matters which were subsequently dealt with and redressed by the Shipping Casualties Investigation Act, 1879.

That the last-mentioned Act was hailed by the whole of the Mercantile community with the greatest satisfaction, and, for the first time, removed Certificated Officers of the Mercantile Marine from the quasi position of criminals in which they were placed upon the occurrence of any of the matters mentioned in the Merchant Shipping Act, necessitating or justifying an inquiry.

That apart from the other matters altered by the Shipping Investigation Act, one material alteration was made in the appointment of Assessors. These Assessors had previously been appointed, by the Wreck Commissioner or Magistrates holding the inquiry, without any rotation at all, and generally on the selection of the presiding Commissioner or Magistrate; and the alteration was one which inspired the whole of the Mercantile Marine with more confidence, viz., that where investigations into a Shipping Casualty were to be held, in which it was likely that the Certificate of any Officer of the Mercantile Marine would be dealt with, two of the Assessors out of the total number that should be appointed to assist the Court, should be Members experienced in matters connected with the Mercantile Marine.

Your Memorialists have had their attention recently drawn to the fact that certain Officers of Her Majesty's Navy who were, before the passing of the said Act, and still are on the List of Assessors for the measures in question, have

lodged a complaint, ending in a return being made, by the order of the House of Commons, of the Correspondence on the subject of their complaint, which your Memorialists have carefully considered.

Your Memorialists would respectfully point out that the few Officers of Her Majesty's Navy, who comprise the Royal Naval Assessors and who signed the complaint in question, do not specify the grievance under which they state they are labouring in consequence of the passing of the said Act, but simply that the Act has placed them in "an unsatisfactory position."

Your Memorialists fail to see what that "unsatisfactory position" is. The complainants are not removed from the List of Assessors, and even if they had been for the purpose of doing justice to the Mercantile Marine, Parliament has never hesitated to abolish vested interests of a class where the public good is concerned.

If, as your Memorialists believe, it be the contention of the Officers of the Royal Navy, whose signatures are appended to the letter of complaint, that they should always sit in investigations under the Shipping Casualties Investigation Act, your Memorialists would point out that there is no Act of Parliament which has ever in terms authorised Naval Officers being appointed as Assessors at all, the words used in the various Acts of Parliament commencing with the Merchant Shipping Act merely requiring that the Assessors shall be persons of nautical or engineering skill, and it is respectfully submitted that those words, being used in an Act of Parliament relating to the Mercantile Marine in the best interpretation of their meaning, could only mean that Assessors of nautical skill in the Mercantile Marine should be appointed to assist the Court, but the Merchant Shipping Act of 1876, in consequence of the Magistrates, who had theretofore held the Inquiries, generally selecting Officers of the Royal Navy expressly provided by Sec. 30,

that where the Certificates of a Master or Mate were likely to be dealt with, at least one person having experience in the Merchant Service should be one of the Assessors, and the Act of 1879, which is complained about, is only an extension of the principle, and provides that two of them should be such Assessors in the cases in question.

Your Memorialists submit that where an investigation into any special subject is to be held, and it is deemed necessary to have skilled Assessors to assist the Judge in consequence of the particular nature of the matter brought before the Court, the best persons to assist the Court are those who are best acquainted with the subject matter to be enquired into, and that if this principle be accepted it follows that those who are best qualified to assist the Court in investigations under the Shipping Casualties Investigation Act are the Officers of the Mercantile Marine.

That their qualification for so doing is evidenced by the fact that they cannot even obtain the position of an Officer of the Merchant Service without having passed certain Examinations to the satisfaction of your Honourable Board, and the Certificates which are granted by your Honourable Board are evidence of the persons to whom they are granted having experience in the Merchant Service.

Your Memorialists refrain from making any other comment or reply to the Return above referred to, although it is open in many parts to refutation and to arguments, but at the same time they would point out the inconsistencies in many of the statements contained in the Return which would, they believe, convince you and the Honourable Board over which you preside that the act of justice which has after many years been accorded to the Mercantile Marine should not be disturbed, particularly if the objections have no other foundation than the undefined "unsatisfactory position" of the signatories to the letter, giving rise to the Return to the Honourable the House of Commons.

